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Overcoming institutional inertia: How cities can foster urban climate mitigation policy

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Summary

This thesis investigates the situation of institutional inertia in terms of climate mitigation policy at the Federal government level of the USA, and how New York City (NYC) has been able to overcome this inertia through the establishment of climate mitigation policies at the urban level. The research aims to discover the five drivers of institutional inertia mentioned in academic literature (power, cost, path-dependency, uncertainty, legitimacy) within the real-life case study of NYC.

Therefore, it is examined how the two most recent Mayors of NYC, Michael Bloomberg (2002-2013) and Bill de Blasio (2014-present), have been reacting on the inertia by establishing their own urban legislation for climate mitigation. Thus, the main research questions of the thesis at hand are: To which extent can cities facilitate the establishment of urban climate mitigation policies? Which ones are the characteristics of institutional inertia? Through which processes is urban mitigation policy established in New York City? Which impactful climate mitigation policies has New York City come up with between 2002-2020 in order to overcome the Federal institutional inertia? Based on the fieldwork outputs of this thesis, which of the three strands of New Institutionalism describes best the institutional inertia observed at the US Federal government level?

Semi-structured in-depth interviews have been conducted with five respondents from NYC, who are experts in public policy in general and in climate policy in particular (policy advisors, experts and analysts). To complement the first-hand information, a desk research has been conducted to analyse legal documents (e.g. policies, executive orders), academic and non-academic articles in order to deepen the information shared by the respondents.

The main findings of the research underline the important influence of the drivers ‘power’, ‘cost’ and ‘path-dependency’ on the stalling or acceleration of policymaking processes. ‘Legitimacy’ and ‘uncertainty’ have been detected to a lesser degree, especially ‘uncertainty’ seems not to have had a considerable influence within the specific examined situation. A factor that has been unveiled as the driving force of impactful urban climate mitigation policy is leadership. Both Bloomberg and de Blasio have recognized the risks and threat that climate change poses to their city and its inhabitants. They reacted by introducing rigorous policies to foster urban climate change mitigation: ‘PlaNYC’, ‘1.5 degrees’ and the ‘Climate Mobilization Act’ are only three examples of the most impactful ones.

Thus, based on the ‘best-practices’ of NYC, main recommendations for mayors contain the problematization of an issue (e.g. measuring bad air quality) as a first step to address it effectively in order to find the most suited solution. Furthermore, the establishment of a specific unit or office like Mayor de Blasio’s Office of Sustainability, which channels all its energy and focus uniquely on climate-related issues, proved to be of value to foster climate policymaking. The policies should at best be established in an egalitarian dialogue with all the involved stakeholders to ensure transparency and effectiveness. In addition, in the case of New York City, policies that apply both ‘sticks’ (e.g. penalties for the violation of building emission limits) as well as ‘carrots’ (e.g. subsidies for retrofitting a non-energy efficient building to the latest standard) shaped up as very effective.

Keywords

Institutional inertia, urban climate mitigation policy, sustainability, policymaking, collective action, network governance.

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Foreword

Having grown up in a bicycle city in Switzerland and in a family with a flair for local and organic food, I have been sensitized early to a sustainable lifestyle. Already in high school, I started to engage politically in the young party of the greens, pursuing the goal of making a change one day by contributing to sustainability by becoming an urbanist, fostering green urban development, or a policymaker, encouraging climate and environmental policies. Therefore, this Master's thesis represents a very important work to me, a very first milestone in my career as an urban manager and developer.

My interest in climate change mitigation policies reaches very deep and is a concern of my heart that arose during my Bachelor's degree in Geography and Sociology, but which culminated during the Master's at IHS. Within the specialization 'Urban environment, sustainability and climate change', I was able to acquire knowledge about different forms of climate mitigation and adaptation, as well as about their importance for a more sustainable future. The specialization underlined my passion for the issue of the changing climate and of the mitigation of its adverse effects, which I will continue to advocate for in my free and working time with full dedication and commitment. This is why I have been highly motivated to conduct the research at hand and to write the present thesis about how climate mitigation policies can be fostered at the urban level, if higher tiers of government do not act on it sufficiently.

Abbreviations

IHS	Institute for Housing and Urban Development Studies
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
IPCC	Intergovernmental Panel on Climate Change
UNEP	United Nations Environment Programme
GHG	Greenhouse gas(es)
RCI	Rational Choice Institutionalism
HI	Historical Institutionalism
SI	Sociological Institutionalism

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Chapter 1: Introduction

1.1 Background information and problem statement

Climate change *mitigation* policies are mainly created among nation states at the international level, e.g. in the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat, where negotiations are carried out by the representatives of the UNFCCC-member states (197 parties) (UNFCCC, 2020). The adopted policy is implemented in the signatory countries, often through the municipalities (Hoppe et al., 2014; OECD, 2010). A city's independent focus is usually led on climate change *adaptation*, rather than mitigation, due to the easier feasibility on the local level in terms of jurisdiction, resources and proximity to the people (Jones, 2018; NASA's Jet Propulsion Laboratory, 2020).

Notwithstanding, as in the case of certain cities like New York City (USA), or of associations of cities like the ICLEI (International Council for Local Environment Initiative) or the C40 Cities Climate Leadership Group, municipalities do sometimes initiate mitigation-actions (OECD, 2010). This can happen either in line with a (inter-)national policy or due to the absence of a such, like it is the case in New York City (OECD, 2010; Van der Heijden, 2019).

The absence of an international agreement or the non-adoption of it by a nation state impedes the establishment of guidelines that cities can implement, leaving a void at the place where action should be. Munck af Rosenschöld et al. (2014) underline this thought, stating that "current climate change policy is significantly lagging behind the scientific evidence", p.639). It is crucial though to find as quickly as possible effective ways to mitigate the adverse effects of climate change, since the results of the human lifestyle today will not show tomorrow, but time-lagged some decades from now. Following the logic, the longer it is waited to act or the longer it is acted insufficiently against climate change, the more difficult it will be to reduce adverse effects in a timely and effective manner. Therefore, it is indispensable to make the divergence between scientific evidence and mitigation action converge again, by fostering impactful policymaking.

"[C]ities are not divorced from the multi-level governance systems and contexts in which they are embedded" (Van der Heijden, 2019, p.366). Maybe this is why municipal governments "have been largely ignored in national and international debates on climate policy solutions" (Jones, 2018, p.32) and why academic literature about city-level climate mitigation policy is still scarce (Van der Heijden, 2019). Often, the focus lies on international negotiations (e.g. at UN, OECD) resulting in an agreement (e.g. Paris Agreement, Kyoto Protocol), which imposes a set of actions to cities from top-down. Nevertheless, it is the cities that can and do already take the initiative, in case a national government fails to respond to the need for climate action. Cities can take the lead by launching mitigation policy themselves, overcoming the national inertia – revealing the important role and leadership potential of municipalities. This theory is especially applicable to cities with a certain degree of sovereignty, as they do for instance in Federalist states (Johnson, 2018; Jones, 2018).

Government apparatuses can be seen as *institutions* in a sociological or a political-scientific understanding. Governments are the place, where legislation is crafted and passed. Therefore, a process of policymaking has to take place first, often through negotiations or discussions between the legislator (e.g. municipality) and involved stakeholders (e.g. building owners, utility services etc.), to achieve consensus or a compromise in the form of a policy. This interaction between individuals during a policymaking process can be described as *collective*

action. Institutional obstacles or *institutional constraints* to a smooth collective action can have a decelerating effect on such a decision-making process, turning it inert and making the common goal (the policy) hard to achieve. Following the logic, the situation can then be interpreted as showing a form of *institutional inertia*.

Respectively, there is a lot to find in academic literature about theories of institutionalism as well as about policymaking processes and city governments. However, their exact intersection, the observation and analysis of “agency within institutional arrangements” (Munck af Rosenschöld et al., 2014, p.646) on the urban level, is still underexplored (Hughes, 2016). Van der Heijden (2019) underlines this notion by stating that there is generally a “need for [...] studies on the role of cities” (p.371) in policymaking. Therefore, the thesis at hand is focusing on this topic, aiming to understand institutional inertia and a city’s response to it by encouraging urban policymaking for climate mitigation.

An example to illustrate the problem statement is the withdrawal of the United States from the Paris Agreement in 2017 (Keeley/Benton-Short, 2019; UNFCCC, 2017). Having been an initial signatory state of the international climate mitigation policy in the first place, the US Federal government left its State governments as well as its cities without overarching mitigation guideline by pulling out of the agreement. As a direct response, over 280 mayors from different US-American cities as well as the Governors from New York State and California gathered and stated: “We are still in” (Keeley/Benton-Short, 2019, p.104). The alliance created the two-year program ‘American Cities Climate Challenge’: It enabled 25 American Cities to “deepen and accelerate their efforts to tackle climate change” (Bloomberg.org Group, 2020a) through the provision of resources to pursue the targets of the Paris Agreement. The initiative was created and has been financed to date by the former Mayor of New York City, Michael “Mike” Bloomberg, and his group Bloomberg Philanthropies – which is also a founder, principal partner and the financial source of C40 Cities Climate Leadership Group (I.d.). The day after the withdrawal, the current Mayor of New York City, Bill de Blasio, signed Executive Order 26, committing NYC to the goals of the Paris Agreement. Together with his Office of Sustainability, he crafted the ambitious and impactful climate action plan ‘1.5 degrees: Aligning New York City with the Paris Climate Agreement’ in order to keep the city on track with climate mitigation and adaptation in the next decades (Mayor’s Office of Sustainability, 2017). These actions underline that there is urban potential to confront higher-tier institutional inertia through local actions.

To date, numerous climate mitigation policies have been passed in New York City and underline the crucial role and the leadership potential of cities in the work against global warming. Mostly since Michael Bloomberg’s mandate (2002-2013), the City of New York established substantial climate mitigation policies, which became even stricter with President Trump’s election in 2016: The Mayor’s Office of Sustainability anticipated a lack of leadership of the Federal government in terms of climate policy, and decided to show more leadership at the urban level by establishing more rigorous climate mitigation policies. Thereby, apart from the above-mentioned important action plan ‘1.5 degrees’, the policy-package ‘Climate Mobilization Act’ was passed in 2019. ‘Local Law 97’ represents its centerpiece, aiming to increase the energy efficiency of buildings, introducing a financial penalty for the violation of new building-emission limits. Furthermore, the package plans to add green roofs and/or solar panels on each new or majorly renovated roof as well as to “fund upgrades to building energy and water efficiency” (City of New York, 2020).

This proactivity of the municipality in climate policy has been empowering the city the longer the more. Bloomberg’s opportunist climate action in the form of urban policies and

other initiatives revolutionized New York City's urban environment and triggered an era of active urban climate policy. In the research at hand, it is discovered that mostly thanks to his leadership and to his private funds, which he actively invested to accelerate research, policymaking and policy analysis processes, Bloomberg "made things happen in New York City" (R5). His successor de Blasio continued the work, applying an even more rigorous urban climate policy (see Chapter 4).

Thus, building upon the entrepreneurial capacity of cities helps them to overcome higher-tier institutional inertia whilst combatting the adverse effects of climate change. In the thesis at hand, the case of New York City and its activity for urban climate mitigation policy is investigated against the background of Federal-level institutional inertia.

1.2 Main research question and sub-questions

To which extent can cities facilitate the establishment of climate change mitigation policy?

- 1 Which ones are the characteristics of institutional inertia?
- 2 Through which processes is urban mitigation policy established in New York City?
- 3 Which impactful climate mitigation policies has New York City come up with between 2002-2020 in order to overcome the Federal institutional inertia?
- 4 Based on the fieldwork outputs of this thesis, which of the three strands of New Institutionalism describes best the institutional inertia observed at the US Federal government level?

1.3 Relevance of the research topic

Climate change is a more conscious, sensitive and pressing topic than ever. Since climate change turns the atmospheric conditions of planet earth eventually into a misanthropic habitat, it is indispensable to act collectively and immediately, as stringent and as effective as possible, in order to mitigate its adverse effects. Therefore, it is important to understand where the assumed institutional inertia in climate change mitigation policy, the independent variable in the research, comes from, and how cities can react on it through local action-taking in the form of urban climate mitigation policies (dependent variable).

On the one hand, it is thus assumed in this research that, in the case of New York City, the Federal government has been failing to respond effectively to the urgent call for climate change mitigation actions. On the other hand, the city level is assumed to be more nimble and agile in its response to pressing issues than a Federal one (Jones, 2018). Thereby, the municipal level and its leadership capacity are shed light on, presenting a solution to higher-tier institutional inertia and to the increasing threat of global warming: through the launch and implementation of mitigation policies at the urban level. Considering the academic literature on the topic, this potential of cities seems to have been underexplored to date (Jones, 2018), which renders the research at hand very relevant. The research aims at highlighting the capability of cities to take action, by showing how the case study of New York City has been succeeding in crafting and implementing impactful climate mitigation policies. Thereby, institutional barriers could be overcome whilst furthering the mitigation of global warming.

As mentioned earlier, the intersection of the theories about collective action and about institutions – “agency within institutional arrangements” (Munck af Rosenschöld et al., 2014, p.646) – is to date insufficiently explored. Therefore, it is important to investigate this intersection and thus cases, in which cities succeeded to overcome such structural problems through conscious action-taking, as NYC did in form of urban climate mitigation policies. This is highly relevant because, nonetheless, current global greenhouse gas emissions are rising (UNEP, 2019) and mitigating actions are urgently necessary.

Condensed: The thesis at hand is of relevance, because the results of the research can help municipalities in a similar situation like NYC to detect institutional inertia in climate mitigation policy and to overcome it.

1.4 Research objectives

The empirical findings of the research add on to previous researches by providing the savoir-faire of New York City, which is successfully overcoming the institutional inertia of the Federal government through local climate mitigation policymaking. Hence, the expected outcome of the research at hand is to detect obstacles for climate mitigation, i.e. drivers of institutional inertia, and to understand actions that can be taken in order to overcome them on the urban level. Recommendations to mayors and urban policymakers can be made, which would help to empower cities and to exhaust the urban potential to mitigate global warming.

Furthermore, as cities are places of high consumption and emissions – 70% of the world’s GHG emissions, 60% of the global energy use and 70% of the global waste come from cities – they might hold the solution to change course and to adopt a sustainable way of living (Jones, 2018). An active and prompt response to climate change, e.g. through effective policies with “demonstrable results” (Jones, 2018, p.11) enhances public support and provides “evidence for other levels of government to pursue policies” (I.d.). This is, at best, expected to incentivize for more action in climate change mitigation.

1.5 Scope

Climate mitigation experiences certain institutional constraints in the international and national political arena, which sheds light on the role of cities and on networks of cities as effective measure-takers. Thus, the urban level gains relevance and is described in academic literature as creating and implementing policies in a more agile, nimble and thus more effective way than higher government tiers (Jones, 2018).

This is why the empirical study of the thesis at hand focuses on a city that has been experiencing Federal-level inertia in climate mitigation policy, and that has been overcoming it by establishing such at the urban-level: New York City (NYC). The research is of explanatory nature. It is investigated and illustrated how the city has been able to respond to institutional inertia, when exactly the mitigation actions started, why and by whom, which factors mostly led to inertia and which the most impactful of those actions were. Through a desk research in line with a case study approach, different sources are analysed to gather the data. Furthermore, interviews with responsible people of the NYC municipality, of C40 Cities and of Columbia University are conducted via Skype and Zoom, enabling an in-depth understanding of the context and of the ideas, opinions and perceptions of the urban climate policy experts.

Chapter 2: Literature review

2.1 State-of-the-art literature

2.1.1 International climate mitigation policy – A brief history

Already in 1896, the Swedish scientist Svante Arrhenius was one of the first researchers to discover an enhanced greenhouse effect due to man-made industrial-age coal burning – although assuming it would benefit future generations (BBCNews, 2013). In 1972, the first United Nations (UN) Environment Conference in Stockholm took place, and in 1992, the UN adopted the United Nations Framework Convention on Climate Change (UNFCCC). Thereby, the UNFCCC secretariat was established. Its task is to respond to the adverse effects of climate change through international climate mitigation agreements (UNFCCC.int, 2020), which aim at stabilizing the “greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system, in a time frame which allows ecosystems to adapt naturally and enables sustainable development” (UN, 1992, p.4). The framework stated in 1992 for the first time officially that the current climate change was human-induced. The Intergovernmental Panel on Climate Change confirmed this statement shortly later in 1995 (UN, 1992; IPCC, 1995).

The 1997 Kyoto Protocol was the UNFCCC’s first tangible initiative for climate mitigation, which was renewed in 2009 through the Copenhagen Accord. Finally, the 2015 Paris Agreement was established and signed by 195 nations, setting the “path to keep temperature rise well below 2 degrees Celsius” (UNFCCC.int, 2015). It is striking though that despite the knowledge about human-induced climate change and about the greenhouse effect for over 25 years and 100 years respectively, it took until 1997 for the first international mitigation agreement to be created, providing guidelines for action to cities. Why was there such a long period of collective inaction and why is it still an issue to date, on the international as well as on the national level, despite the urgent call of scientists?

A possible reason that undermines action-taking is the presence of institutional constraints. What institutions, their constraints and collective action are shall be discussed below and ultimately blended together to understand better the empirical situation of the case of New York City.

2.1.2 Institutions and New Institutionalism

2.1.2.1 Institutional inertia and institutional constraints

Humans create and reproduce institutions. Thus, institutions evolve and change through humans – or more precisely, through collective action (North, 1990). Understanding an institution as something that has been decided upon to be institutionalized – like a policy passing into a law – a policy is a type of institution.

Institutions are relatively inert, showing a slow movement and a slow responsiveness to transformation. This “stickiness” (Munck af Rosenschöld et al., 2014, p.640) of institutions is labelled ‘institutional inertia’. Synonyms like “paralysis”, “apathy” and “passivity” (Dictionary.com, 2020) underline the phenomenon as being little dynamic and rather resistant: As a result, institutional change is difficult to accomplish, which attributes a certain stability and predictability to institutions. Based on the logic from above, this means that policies are preserved thanks to their institutional character. Therefore, if one seeks to establish or change a policy, one has to establish or change an institution. Without human action however, this attempt cannot succeed.

Munck af Rosenschöld et al. (2014) identify five main “mechanisms that generate and regenerate institutional inertia” (p.639): uncertainty, power, costs, path-dependency and legitimacy. Those are ideal types that can be described separately in theory, but that are interwoven in reality. Linked to different domains, actors and amongst themselves, they are multifaceted. This network-like character turns them into complex concepts, which makes it hard to address them in the pursuit of solving institutional inertia.

Institutions exert coercion on individuals in the shape of formal and informal institutional constraints. In effect, those are created by humans themselves. They include prohibitions from and permissions to do certain actions, forming a “framework within which human interaction takes place” (North, 1990, p.4) – similar to the task of a public policy. The idea is analogous to rules of a team sport or a board game. Both formal and informal constraints are omnipresent, influencing the individual choice of action. Whilst “formal rules may change overnight” (North, 1990, p.6), informal ones, like traditions, codes of conduct and customs, take longer to change. Informal constraints are embedded in society and therefore much more resistant. For example, the United States Constitution was created overnight, the common law however has been evolving over time (North, 1990). When institutions change, organizations do as well, adapting to the modified institutional context.

“Organizations include political bodies (political parties, the Senate, a city council, a regulatory agency), economic bodies (firms, trade unions, family farms, cooperatives), social bodies (churches, clubs, athletic associations) and educational bodies (schools, universities, vocational training centers). They are groups of individuals bound by some common purpose to achieve objectives” (North, 1990, p.5).

Every organization provides different opportunities of action to individuals. Individuals react on the organizational and institutional context, which feeds back to the organizations and institutions. This is where small bits of change can happen: Responding to the feedback information of society, institutions can adapt their framework, to which organizations adapt subsequently, all of which provides a new context to society. The situation designates a symbiotic, reciprocal relationship between the three entities, which is responsible for the incremental character of institutional change (North, 1990).

An example to illustrate the above-mentioned would be the City Council of New York City, being an organization, where legislation is discussed, modified and passed. The Council members are responding to the institutional context by dealing with the policies that the municipality drafts. Then, the citizens comply with the legislation by following it in a passive manner, or they may revolt against the institutional environment. The idea being that, if, for instance, the local community or the US-wide climate activists of the *Sunrise Movement* claim the need for (more) climate mitigation action, the Mayor will hear this inquiry, discuss it during a Council hearing and – at best– adapt or create legislation in favour of the claim. This reciprocity modifies the legislative body and thus the institutional landscape, to which organisations like NYC-based firms adapt subsequently, providing an altered environment for the local community.

2.1.2.2 New Institutionalism

In order to tackle the earlier mentioned five drivers of institutional inertia, Munck af Rosenschöld et al. (2014) propose the lens of ‘new institutionalism’. New institutionalist literature blends together aspects of sociology, political science and economics, and is thus considered as a comprehensive lens, through which the five mechanisms can be investigated. Therefore, new institutionalism is considered a revealing way to diagnose institutional inertia in an empirical situation. Investigating such a case in the thesis at hand, the lens of new institutionalism is thus applied as an analysis-tool or framework to view the research findings presented in Chapter 4.

New institutionalism is a perspective on human behaviour and agency, which emerged in the 1960ies-70ies. It represented a direct response to the tendency at that time to reduce social problems to the individual person, neglecting the role of society in causing such. This understanding was perceived as too narrow, and “the role that institutions play in the determination of social and political outcomes” (Hall/Taylor, 1996, p.936) had been insufficiently shed light on. This is why three different schools of thought, which were originally developing independently, were integrated into the new institutionalist perspective: The merge created an enriching body of interlinked and complementary knowledge, which allowed to illuminate better the role of institutions for human agency. The authors Hall and Taylor (1996) called those three approaches, based on the three domains mentioned above, historical institutionalism, sociological institutionalism and rational choice institutionalism. The latter shows considerable parallels to the ‘new institutionalist’-perspective encountered in economics. The different understandings of the three approaches, of what institutions are, shall be explained subsequently.

Rational choice institutionalism understands “institutions as rules, both formal and informal, which ensure the survival of a regime or an organization” (Munck af Rosenschöld et al., 2014, p.640). North (1990) elaborates that thanks to those rules, individuals do not need to contemplate most of their daily actions, because they got institutionalized through repetition and became a *habitus*. Habits are routines, which do not hold any uncertainty anymore. The individual then acts based on this routine, without further reflection. In contrast, as an individual confronts a more complex or an unknown situation, his repertoire of (re-)actions is initially limited. The new situation bears uncertainty (North, 1990). Therefore, an action necessitates reflection first, which causes transaction costs. To overcome this, the individual has to repeat the experience several times, thereby reducing uncertainty and the transaction costs each time, until the institutionalization of the (re-)action to the situation is established (Hall/Taylor, 1996). Then, the habit is created, providing a “stable, but not necessarily efficient” (North, 1990, p.6) structure to agency. North (1990) concludes: Institutions “are a guide to human interaction” (p.3f).

Sociological institutionalism perceives institutions “as a collection of cultural artefacts: norms, values, routines, scripts, and symbols” (Munck af Rosenschöld et al., 2014, p.641). In this perspective, institutions and procedures are seen as specific to the cultural context they arise in. The cultural knowledge and practice are transmitted from one generation to the next. Thereby, institutions are directly adopted by the next generation, from birth onwards – not through choice or because of their efficiency. Through the cultural background, the adoption of a new institution or of the modification of a such is only perceived as legitimate if they match the values of the specific culture (Hall/Taylor, 1996).

According to this, culture itself is seen as a form of an institution within sociological institutionalism. Thereby, the classic sociological understanding of culture is complemented with being “a network of routines, symbols or scripts providing templates for behaviour” (Hall/Taylor, 1996, p.948). Following this logic, institutions are role-models for action, providing ‘guidelines’ of how to behave in certain situations in order to act appropriately corresponding to a social role (e.g. being “the teacher”, “the student” etc.) (Hall/Taylor, 1996).

Concluding, in a sociological institutionalist perspective, institutions as norms help individuals not only to anticipate and interpret the actions of others, but also to recognize a situation and to know, how to act appropriately in it. Therefore, institutions and individual action are reciprocally constitutive (Hall/Taylor, 1996). This can be empirically observed in networks of actors, where institutional practices develop through interaction, creating a shared understanding of problems and potential solutions. This new norm serves henceforth as an orientation of how to act in order to be aligned with the common goal. If an actor does not follow it though, he can be sanctioned.

Historical institutionalism emerged as the fusion of aspects of group theory and structural functionalism. From the former, the approach kept the idea that the structure of economy and of the political system (‘polity’) constructs “conflict among rival groups for scarce resources [...] so as to privilege some interests while demobilizing others” (I.d.). From the latter, the idea was adopted that the polity was a space of interaction, and its institutional organization – the structure of the state – would shape collective behaviour (Hall/Taylor, 1996). According to this, in historical institutionalism, institutions are defined as “formal or informal procedures, routines, norms and conventions embedded in the organizational structure of the polity or political economy” (Hall/Taylor, 1996, p.938).

The approach is particularly of interest because it underlines the asymmetrical power relations in the functioning and the evolution of institutions as problematized by group theory (Hall/Taylor, 1996). Furthermore, the approach underlines the factor of historicity, which gives it its name, stating that “social causation [...] is path-dependent” (Hall/Taylor, 1996, p.941). In other words: Collective action and its outcomes are shaped differently depending on the institutional context and its historical development (Hall/Taylor, 1996).

This underlines the resistant, steadfast character of institutions, persisting over time, which was already encountered earlier. ‘Path-dependency’ was picked up by Douglass C. North (1990, p.3): “Institutional change shapes the way societies evolve through time and hence is key to understanding historical change”.

Below, Table 1 aims to help the reader to understand the theory by showing a comparison between the three strands of new institutionalism with their different definitions of institutions.

Table 2 clarifies, which drivers of institutional inertia are found in which strand of new institutionalism. The crosses mark the occurrence of the driver of institutional inertia (ii) in the perspective of the different theory-strands of new institutionalism: rational choice institutionalism (RCI), sociological (SI) and historical institutionalism (HI).

	Rational Choice Institutionalism	Sociological Institutionalism	Historical Institutionalism
Definition of Institutions	Rules, both formal and informal, which ensure the survival of a regime or an organization; guide to human interaction	Collection of cultural artefacts: norms, values, routines, scripts, and symbols	Formal or informal procedures, routines, norms and conventions embedded in the organizational structure of the polity or political economy
Similarities Between the Three Strands	Understanding of institutions as formal or informal norms/rules/ routines providing a guideline for action, ensuring the survival of the institution		
Differences	Focus on rationality/wealth-maximization as motivation for action; strategic, purposive action to steer outcome; underlines benefits of institutions; deductive	Assumes that the world is one of institutions; orientation at "institutional templates" (Hall/Taylor, 1996, p.953); adoption of institution specific to cultural context, not efficiency; inductive	Assumes that the world is one of institutions; Less precise explanation of the influence of institutions on individual behaviour; Sheds light on power relations within institutions; path-dependency of institutional creation; inductive

Table 1: Comparison of the different strands of New Institutionalism (Author, 2020; based on Hall/Taylor, 1996; Munk af Rosenschöld et al., 2014; North, 1990).

Type of New Institutionalism \ Driver of ii	Path-Dependency	Uncertainty	Legitimacy	Power	Cost
RCI		X		X	X
SI	X	X	X		
HI	X		X	X	

Table 2: Link between the drivers of institutional inertia (ii) and the strands of New Institutionalism (Author, 2020; based on Barrett/Dannenber, 2012; Bosetti et al., 2009; Hughes, 2016; Jones, 2018; Jordan et al., 2018; Mahoney, 2000; Morrison et al., 2017; OECD, 2010; Urpelainen, 2011).

2.1.3 Collective action problems

Despite the notion that institutions should ensure smooth agency, it can happen that a process of collective action does not go without problems. For example, policymaking can be an inert and ineffective process. But why? Collective action *problems* emerge because of individual interests, which are not aligned with the collective benefit – even though every involved actor would benefit from the collective action (Ostrom, 1990; Hall/Taylor, 1996). This puts a stumbling block in the way of a smooth procedure, often leading to long discussions, which slow down the decision-making process (North, 1990). For example, when a new policy is discussed in the New Yorker City Council to increase building-energy-efficiency, the building owners are likely to veto, since they are the ones paying the cost of retrofitting their buildings. Reluctant to pay, they might try to negotiate lower standards to save some budget, which protracts the process.

However, accord does not guarantee an absence of inertia neither, as we shall see below (Olson, 1965). There are three main concepts of collective action problems in theory, which shall be discussed: the tragedy of the commons (Hardin, 1968), the prisoner's dilemma and the free-rider problem (Olson, 1965; Ostrom, 1990). They all look at the same situation with different perspectives.

2.1.3.1 Tragedy of the commons, prisoner's dilemma and free-rider problem

The commons are 'common ground' that belongs to everyone and which is therefore prone to be exploited. There is no legal limit for its use and no punishment for those who use it more than others. This logic "remorselessly generates tragedy" (Hardin, 1968, p. 1244), which is often illustrated *qua* the situation of two herders sharing a common grazing meadow: There is a maximum limit for the number of animals that can graze on it during a season and be well-fed at the end, without overusing the meadow (Ostrom, 1990). Starting from the moment, where both herders try to maximize their profit by adding more and more cattle to the meadow, the overuse of the grazing ground is initiated, eventually depleting the precious source for both herders. The same logic can be applied to National Parks or fishermen on the oceans, who enjoy "the freedom of the seas" (Hardin, 1968, p.1245), fishing more and more fish, until the fishing grounds are exhausted, leaving both fishers starving (Ostrom, 1990). However, they could have compromised on only fishing a needed minimum of fish to keep the ocean abundant, ensuring future nourishment for both.

The prisoner's dilemma is to be found in the same situation. It fascinates because of its paradoxical character: "Individually rational strategies lead to collectively irrational outcomes" (Ostrom, 1990, p.5), or in other words: Even if it was in their best interest to cooperate, leading to an ideal outcome for both, two individuals would choose to act in their individual interest – at the expense of the collective benefit. Remembering from the above scenario the maximum number of cattle on a common meadow without depleting it (number L), "the 'defect' strategy" (Ostrom, 1990, p.4) comes into play. It describes the aim of each herder to let as many cattle graze on the commons as they individually believe will bring them profit (Ostrom, 1990). Hence, both put more and more cattle on the meadow.

In another moment, one herder might be considerate of his neighbour-herder and cooperate, thus limiting his animals to $L/2$ – whilst the other one might still defect. If both herders limited their grazing to $L/2$ however, they would cooperate successfully and generate a collective benefit: Their cattle could graze, be well-fed at the end of the season *and* the meadow could be used again in the subsequent year. Ostrom (1990) argues that without a binding contract, the dominant strategy is to defect. Consequently, the attempt to cooperate usually fails and the commons get systematically overused, which leads to the depletion of the source. Another example of a common good is the atmosphere that is being depleted through human activity.

The theory earned critics from North (1990), who stated that the experiment was a "one-shot game" (p.13): Hence, if the prisoner's dilemma was played more than once, defection would not be the predominant strategy – in fact, there would not be a dominant strategy at all (I.d.). Collective action problems in reality would not happen just once neither. Therefore, according to North (1990), the prisoner's dilemma is not suitable to explain real-life situations.

Another problem of collective action is the free-rider problem, which is to be found in the tragedy of the commons alike: "Whenever one person cannot be excluded from the benefit that others provide, each person is motivated not to contribute to the joint effort, but to free-ride on the efforts of others" (Ostrom, 1990, p.6). Olson (1965) summarizes this logic as follows:

"Indeed, unless the number of individuals is quite small, or unless there is coercion or some other device to make individuals act in their common interest, rational, self-interested

individuals will not act to achieve their common or group interests. *In other words, even if all of the individuals in a large group are rational and self-interested, and would gain if, as a group, they acted to achieve their common interest or objective, they will still not voluntarily act to achieve that common or group interest*” (p.2, emphasis original).

This explains the individual decisions the herders took in the scenario above, pursuing their own interest. Also, during a policymaking process and in the implementation-phase of a policy, the free-rider problem can occur, as Klijn/Koppenjan (2007) argue. For example, if some nation states gathered to commit voluntarily to an international climate mitigation accord (e.g. the Paris Agreement), where no penalties are meted out in case of defection, every state could choose not to contribute as much – i.e. not to reduce its GHG emissions as strictly as the other committed states – in the fear of losing a competitive advantage. Consequently, they benefit from the effort of the others, whilst continuing to pollute the common environment (freeriding, tragedy of the commons). At the same time, the other states feel betrayed by the non-contributing state, because they held their word (prisoner’s dilemma). Klijn/Koppenjan (2007) underline that the absence of trust and sanctions would increase transaction costs and rather encourage “exploitative behaviour” (p.13) than cooperation.

2.1.4 Urban climate policy(making)

2.1.4.1 Definition of (urban) policy

For the fieldwork of the thesis at hand, urban climate mitigation policy and policymaking in New York City are at the heart of the research. Therefore, it is necessary to discuss first what a policy is.

There is no unique definition of what a policy is (Cochrane, 2007). It can be “a vision, guiding principles and a set of linked actions [...] to tackle problems” (UN Habitat, 2014, p.5), or “a coherent set of decisions derived through a deliberate government-led process of coordinating and rallying various actors for a common vision and goal that will promote more transformative, productive, inclusive and resilient urban development for the long term” (UN Habitat, 2014, p.iii). Klijn/Koppenjan (2007) underline UN Habitat’s emphasis on the coordination of actors from the perspective of ‘network governance’:

“[P]olicy is made in complex interaction processes between a large number of actors which takes place within networks of interdependent actors. These actors are mutually dependent so policy can only be realised on the basis of co-operation. This co-operation, however, is by no means simple or spontaneous, and it requires types of game management and network constitution” (Klijn/Koppenjan, 2007, p.6).

Based on ideas of Foucault, Cochrane (2007) describes policies as a way to problematize, i.e. to detect problems, to identify their character, and to find solutions to them. As he elaborates, urban policies were historically understood as a direct response to political pressure, reacting on riots or social issues in the urban sphere. Policymaking for social issues was perceived as an “autonomous” (Cochrane, 2007, p.8) action of the urban government, as opposed to policies to “issues of economy and production” (I.d.), which were and often still are allocated to the national level of government.

In the present thesis, a similar perspective is embraced, namely that cities may establish urban climate mitigation policies ‘autonomously’, taking initiative on topics, which are neglected by the Federal government legislator – like climate mitigation policy in the case of the USA. New York City has passed thus several policies and action plans, such as ‘PlaNYC’, the

‘Climate Mobilization Act’ or ‘1.5 degrees’, enabling the city not only to overcome Federal passivity in terms of climate action, but to even go beyond certain climate targets (R2). New York City’s success can serve as an incentive or template for other cities or government levels, triggering similarly progressive climate mitigation action.

2.1.4.2 Finding ways to foster more effective urban policymaking

2.1.4.2.1 Process Performance Management

Observing inert processes in public policymaking, the question arises how city governments can turn it more effective. To measure a policy’s effectiveness, Jones (2018) and the Organisation for Economic Cooperation and Development (OECD, 2009) propose the monitoring and evaluation of policies to keep track of their results – which corresponds to the last steps to close the ‘policy cycle’. The feedback provides insight of where the implementation, i.e. policy itself, still lacks, and where and how it should be improved. Jones and the OECD call the approach ‘performance management’ (OECD, 2009; Jones, 2018). It is applied during and after the *implementation* of a policy. However, there is still a lack of knowledge on how to keep track of the effectiveness of the *process* of *making* a policy, the precursor of an implementation. Academic literature about a comparable idea to monitor and evaluate a making-process has not been found during the literature review. Thus, there might be a niche to be filled with this idea. Hughes (2016, p.367) underlines the niche, stating that “frameworks and theories for understanding and explaining the political patterns that underpin mitigation policy adoption and implementation are underdeveloped, and it is not immediately obvious that existing theories of urban politics will suffice”. She adds furthermore that there is a lacuna in academic literature concerning the influence of “authority, institutional constraints and opportunities, and political interest” (Hughes, 2016, p.373) on urban climate activity.

Therefore, it might be interesting to innovatively apply a similar monitoring-system to the policymaking *process*, as it is applied to the *implementation* by the OECD (2009) and Jones (2018): a ‘*process performance management*’, or ‘*process performance tracking*’ so-to-say. This new approach would fall in line with the research objective of this thesis to investigate institutional inertia (independent variable) that hinders smooth policymaking in climate mitigation. Since the general aim is to detect where institutional inertia comes from and how it can be overcome, the novel idea of ‘process performance management’ may be a utensil in the future to enhance effectiveness in climate mitigation policy through monitoring and evaluating the process of its making. A further-leading question would be, who the person or the group would be who would monitor and evaluate the policymaking process, and which indicators or conditions the evaluation would be based on. These questions might well be leading thoughts for future research.

2.1.4.2.2 Network Governance

Climate change is a wicked problem, and wicked problems cannot ‘just’ be solved, because they are complex, bear uncertainty, circularity and a considerable interdependency between the numerous actors involved. Additionally, those often have conflicting interests, making a compromise difficult to achieve (Jones, 2018). One rather has to foster an undisturbed and fruitful discussion and to help the actors find a “shared understanding and shared meaning about the problem and its possible solutions” (Jones, 2018, p.84). The shared understanding is likely to enhance the finding of a shared solution, i.e. the draft of an appropriate policy, to effectively address the issue in question.

Hughes (2016) explains that “[s]uccessful mayoral climate change agendas may be determined more by the potential and strategies of collaboration than on the use of formal powers” (p.368f). In short: Wicked problems call for a new approach of problem solving, that moves away from the traditional ‘vertical’ (hierarchical) way, to a ‘horizontal’ (cooperative) approach. This shift is also referred to as ‘from government to governance’ (Klijn/Koppenjan, 2016).

Governance can be understood in different ways. Here, the definition of Klijn/Koppenjan (2016) is used: Governance describes the inter-governmental relations, which are especially present in climate policy, where different hierarchies of governments, organizations but also the community work together across their boundaries to achieve a change. These cross-relations form a network, giving rise to the term *network governance* (Klijn/Koppenjan, 2016).

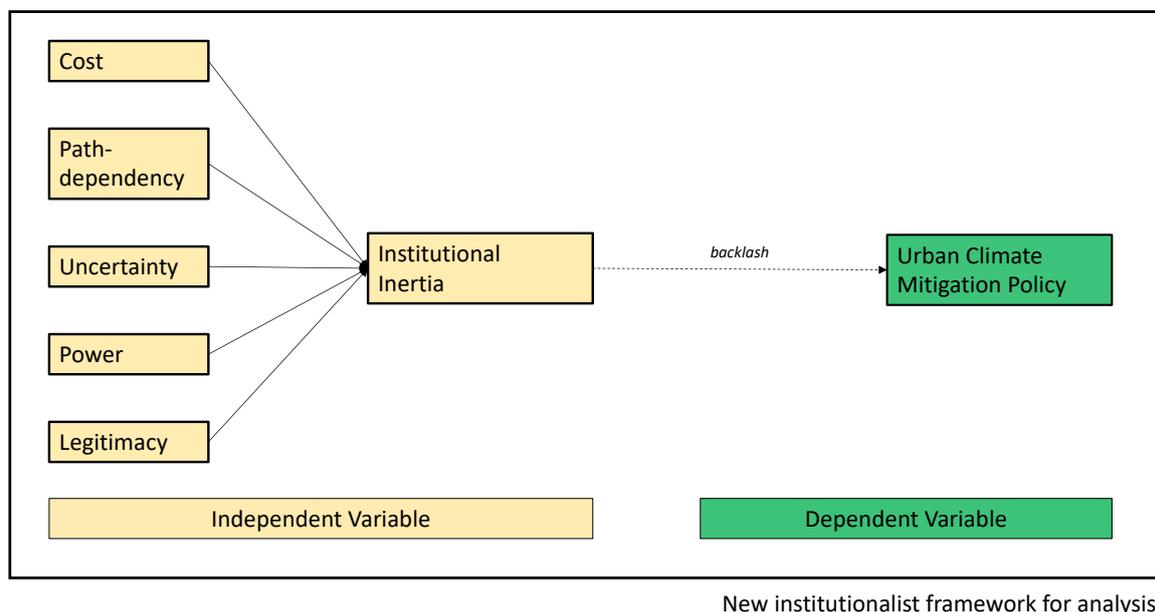
According to the authors, the failure and the success of a policymaking process depends on two institutional factors: the structure of the network on the one hand, and the process of interaction within this network on the other. Thus, first, giving a structure to the interaction should help to guide the discussion among the actors. Second, the presence of rules for a respectful and rewarding interaction should help to mediate successfully between the stakeholders (Klijn/Koppenjan, 2016). Therefore, if the interaction and the interdependencies between actors as well as the complexity in the network need to be facilitated for a successful decision-making process, the mentioned two factors should be modified first. By adapting the network arrangements – its structure or the interaction within it – the stakeholders can be better coordinated. Arranging a strategic composition of the actors in a network, a ‘horizontal’ (more cooperative) environment can be shaped, offering the same position to every stakeholder. Hence, no one is a central steering-actor, the entire network has to collaborate, acknowledging every stakeholder’s presence and indispensable resources, which are needed to achieve the common goal. Therefore, ‘power positions’ of potentially more resource-wealthy stakeholders are relativized or ‘levelled-out’, establishing a democratic network, so-to-say.

Furthermore, the success of a policymaking process depends on the capability of the stakeholders to merge their interests and perceptions by creating “packages of goals” (Klijn/Koppenjan, 2007, p.9). Those should be acceptable and satisfying for everyone involved, setting an incentive for the collective to achieve the package, which induces cooperation. Therefore, it is crucial that the stakeholders of the network acknowledge the resource distribution among them, their values and their interdependency, so as cooperation is appreciated and actually exerted (I.d.). For example, after the withdrawal of the USA from the Paris Agreement in 2017, 446 Mayors of US-cities – the *Climate Mayors* – announced to stay committed to the Paris targets and to maintain and strengthen the relationships with other countries and cities “around the world to protect the planet from devastating climate risks” (Climate Mayors, 2017). This initiative shows a network character between the US-Mayors and -cities, as well as between them and other countries, cities and Mayors in the world. They acknowledged their resources, share a common goal and thus collaborate. At the same time, awareness for the topic was raised, which is a precedent of action for other cities and countries.

In the case of New York City, it is investigated whether the theory of network governance is observable within the policymaking arena, and if yes, if it is a key factor for the proactive climate action-taking in the city.

2.2 Conceptual framework

Figure 1: Conceptual framework of the thesis at hand (Author, 2020; based on Munck af Rosenschöld et al., 2014; Jones, 2018).



Above, the conceptual framework of the thesis at hand is shown. In the centre box, the independent variable (IV) ‘institutional inertia’ is illustrated, being driven by the five factors cost, path-dependency, uncertainty, power and legitimacy (Munck af Rosenschöld et al., 2014), shown at the left-hand side. All of those mechanisms add a stumbling block to a smooth process of collective action, as it is a process of policymaking, and turn it inert. Thus, collective action problems can occur (Ostrom, 1990). Despite being described and listed here separately, the five mechanisms are interlinked in reality. For example, path-dependency can hinder a new urban policy to be accepted by the community, because the old-fashioned way worked well and was already accepted (legitimate). In this example, legitimacy and path-dependency are interlinked. The same idea holds true for the other mechanisms. This is why it is nearly impossible to separate the five drivers in an empirical research, leading to the decision that, despite time constraints, all the five drivers will act as sub-variables of ‘institutional inertia’. Additionally, several authors integrate more than one of the mentioned drivers in their argumentation, which underlines their interconnection (Bosetti et al., 2009; Jones, 2018; Jordan et al., 2018; Mahoney, 2000; OECD, 2010).

However, not every driver is supplied with the same number of indicators in the research at hand, due to their different ‘notoriety’ in academic literature. For example, the drivers cost, legitimacy and uncertainty are often referred to in connection to institutional inertia in climate mitigation policy (Barrett/Dannenbergh, 2012; Bosetti et al., 2009; Johnson, 2018; Jones, 2018; Jordan et al., 2018; Morrison et al., 2017; Mahoney, 2000; OECD, 2010; Urpelainen, 2011), whereas path dependency and power are slightly less often found (Hughes, 2016; Jones, 2018; Mahoney, 2000; OECD, 2010). Nevertheless, in order to comprehensively understand institutional inertia and its influence on urban mitigation policy, all the drivers are considered. As described in Chapter 4, power, cost and path-dependency have been the most observable of the five drivers.

If an institutional inertia happens in a discussion process for climate mitigation on the national level, the creation of an effective outcome can be stalled or completely impeded. Subsequently, cities – usually responsible for the implementation of policies – are left in a void, where guidelines for mitigation action should be. As a counter response or ‘backlash’ to this situation, cities have to take action themselves, independent of higher-tier (in-)activity. This transition of being a – so to speak – ‘passive’ element implementing a policy from top-down, to an ‘active’ element taking action itself by establishing *urban* climate mitigation policy is shown as the description “backlash” over the dashed arrow, going from “institutional inertia” towards “urban climate mitigation policy”.

The latter is therefore the dependent variable (DV) of this research, illustrated in the green box at the right-hand side of the conceptual framework. The DV varies depending on the presence and degree of institutional inertia, and on the reaction on it by – in the present case – the mayor of the city.

To investigate this interplay of inertia and cities, the case of New York City is studied. US-American cities for instance were left without any climate mitigation guidelines after the withdrawal of the USA from the Paris Agreement in 2017 (Keeley/Benton-Short, 2019; UNFCCC.int, 2017), whereupon a petition of the C40 Cities as well as of a group of US-American Mayors, including NYC’s Mayor de Blasio, called for the commitment to and the delivery of the Paris goals either way. The aim of the research is to investigate how NYC succeeded in overcoming Federal institutional inertia by establishing local climate mitigation policy.

Chapter 3: Research design, methods and limitations

3.1 Main research question and sub-questions

To which extent can cities overcome higher-tier institutional inertia through facilitating urban mitigation policy?

- 1 Which ones are the characteristics of institutional inertia?
- 2 Through which processes is urban mitigation policy established in New York City?
- 3 Which impactful climate mitigation policies has New York City come up with between 2002-2020 in order to overcome the national institutional inertia?
- 4 Based on the fieldwork outputs of this thesis, which of the three strands of New Institutionalism describes best the institutional inertia observed at the US Federal government level?

3.2 Description of the research design

3.2.1 Research strategy: Case study and desk research

The case study of NYC was strategically chosen, since there was the need to investigate a US-American city, of which sufficient data is available, to see how it coped with the assumed institutional inertia of the Federal government. NYC applies to those conditions and is, due to its dimension, and being a political, financial, touristic and economic capital, an interesting case for questions of urban management.

In a case study, a “wealth of empirical information [...] which serve[s] as a basis for developing new theories or lead[s] to the improvement of existing ones” (Van Thiel, 2014, 92) is gathered, often through in-depth interviews with respondents, e.g. who live in the case study city. Thus, data is collected in a “real-life setting” (Van Thiel, 2014, p.86), which holds true even during a pandemic, as interviews can be conducted by video call, for instance using Skype or Zoom. This method is applied in the thesis at hand, where five respondents have been contacted online and interviewed for the research purpose via the mentioned devices. This has allowed the research to still gain detailed insight into the chosen context (Verschuren/Doorewaard, 2010), despite social distancing and lockdowns. As will be explained in more detail under 3.2.2 and 3.2.3, the five respondents are senior policy advisors, policy experts and analysts who are working at the Mayor’s Office of Sustainability and at Columbia University, New York City.

Furthermore, the keeping of a case study documentation in form of a systematic (analogous) log and of memos within the software Atlas.Ti (see below) allows for a degree of standardization. This makes it possible for the research to be replicated if needed, which increases its reliability.

By making the independent variable (IV) vary and focusing on the changes in the DV when the IV varies in time, a causal relationship to the dependent variable (DV) can be observed (Van Thiel, 2014). In the research at hand, this is done through the examination of the political history of the city and the governing styles of its two latest Mayors since 2002. The choice of the two mayoral periods is made based on the information gathered during the in-depth interviews. The respondents 1, 2 and 5 explain that before the mandate of Mike Bloomberg, no considerable urban climate mitigation policy had been established. Mayor Bloomberg is said to be “the first leader on climate in New York City” (R4).

Desk research is a research strategy that uses existing data to gain insight in the topic of interest, usually through the analysis of different kinds of documents like “literature, secondary data and official statistical material” (Verschuren/Doorewaard, 2010, p.194), for example of “policy memoranda, legal documents, annual reports, or newspaper articles” (Van Thiel, 2014, p.102). The latter enumeration contains documents that have not been particularly established for the intent of a research, which turns them into primary data within the strategy of desk research.

The strategy is usually applied to compare data over time, or to help to “reconstruct how a certain development has taken place” (Verschuren/Doorewaard, 2010, p.216), which applies well to the second and third sub-question of the present thesis. Furthermore, sub-question one can be investigated through desk research as well.

In addition, the method is very cost- and time-efficient thanks to the abundance of available data (Verschuren/Doorewaard, 2010). Finally, the new analysis of existing data provides a “fresh” (Verschuren/Doorewaard, 2010, p.194) perspective on the original data, offering the possibility of new insights. Using different sources, the research gains validity and reliability through triangulation.

3.2.2 Data collection of the primary and secondary data

For the case study-part of the research, primary data is gathered through semi-structured interviews with respondents working at the City of New York (municipality), at Columbia University and at C40 Cities.

A semi-structured interview is chosen, because certain information is already available online and is not necessary to be asked. Thus, more specific questions can be asked from the beginning on, which further allows to test some hypotheses that the author has in mind. An interview guide with topics and questions to ask the interviewee, “a fixed pattern (replicability)” (Van Thiel, 2014, p.100), is followed, enhancing reliability and valid findings. At the same time, room is left for spontaneous questions and comments from both the researcher and the interviewee. Hence, the conversation can “take its natural course” (Van Thiel, 2014, p.95), which is easing for the respondents and allows them to talk freely about additional thoughts or topics that the researcher might not have thought of initially. Furthermore, the interview questions first undergo a pilot test with a person, who is completely detached from the research, to detect potential errors, ambiguity, difficulties or inappropriateness in the questionnaire. The feedback is then integrated into a corrected interview guide.

For the collection of primary and secondary data within the desk research, climate change mitigation policies established by the Mayor’s Office of Sustainability, related documents in the online archive of the City of New York as well as articles of related online news are investigated. The most rewarding data has been found on the government website of New York City, where all executive orders, policies and other legal documents are visible in an archive.

The choice of the documents is based on the information shared by the respondents during the interviews: For example, the ‘Climate Mobilization Act’, ‘PlaNYC’ and ‘1.5 degrees’ are names of policies and action plans, which are regularly mentioned. Therefore, the corresponding policy papers and related information are researched to understand better the importance of those policies (see Chapter 4). In addition, Hurricane Sandy and the withdrawal of the USA from the Paris Agreement are events, that the respondents often talk

about as triggers for more rigorous urban climate mitigation policy. Thus, information about those events has been gathered. The aim is to observe during the analysis, whether certain patterns coincide, e.g. if those climatic or political events really triggered (more) mitigation action or not.

Through the overall use of different sources and methods, a triangulation is applied and enhances the validity and reliability of the research (Van Thiel, 2014; Verschuren/Doorewaard, 2010).

3.2.3 Sampling method for the case study: Snowball-system

The respondents for the interviews have been found and contacted online on LinkedIn, through an effective snowball-system (Verschuren/Doorewaard, 2010). The individuals found on LinkedIn, when typing in “Mayor’s Office of Sustainability, New York City”, have been very responsive and helpful in establishing a connection with climate policy experts. Furthermore, the respondents are asked at the end of the interview, if he or she could recommend another person that is proficient in the topic of climate mitigation policy. Through these approaches, it has been possible to reach out to (senior) policy advisors of the above-mentioned Mayor’s Office, to a professor of public policy and a senior lecturer of environmental policy at Columbia University in NYC, and to a representative of the C40 Cities Climate Leadership Group. Another individual, the former intern at the Mayor’s Office, could be contacted thanks to a common friend.

Snowballing is usually described as a non-purposive sampling method in academic literature (Van Thiel, 2014). However, in the case at hand, the snowballing method is purposive, since a certain type of people is looked for (policy advisors, experts, analysts). Thus, describing the sample-selection as orientating at a certain *type* of person, the purposive selection is legitimized, and representativeness can be enhanced (Van Thiel, 2014).

Furthermore, the authors Verschuren/Dooreward (2010, p.181) state that “when researching information flows and networks of [...] interaction in organisations”, snowballing is considered a relevant sampling method. In the present case, the interaction between different stakeholders and the legislator (employees of the Mayor’s Office and the Mayor), as well as the exchange of information in this actor-network are relevant factors of the urban policymaking process. Thus, the sampling method is considered appropriate.

3.2.4 Data analysis

The analysis of the interviews is systematically conducted with the software ‘Atlas.Ti’ in order to apply a content analysis. A content analysis is about “interpreting the content of certain documents” (Van Thiel, 2014, p.59), in this case of the transcribed interviews. This is done by “assign[ing] a value to parts of the text” (Van Thiel, 2014, p.110), whereas the value can be of quantitative or of qualitative nature in the form of a score or a code. The codes represent the indicators, dimensions and concepts of the independent and the dependent variable of the thesis established in the operationalization table (see under 3.3): For instance, the code “I: InIn.: Power: Power-Pro” in Atlas represents indicator 2.3, and so forth. In the research at hand, codes are assigned to text fragments, which are then counted. At the same time, the contexts of the codes are taken into account to foster the understanding. Thereby, the empirical data “is translated, as it were, into theoretical concepts” (I.d.).

Therefore, the in-depth interviews are first audio-recorded with the consent of the respondents and transcribed subsequently. The vocal recognition programme ‘Cloud Speech-

To-Text’, available on ‘Google Platform’, provides a helpful tool for this task. Thereafter, the transcripts are inserted into the programme and are coded by the researcher. The programme creates an output based on the coded document, listing the number of times a certain code appears. Thanks to this list, a strong (high count), modest (modest count) or weak (low count) presence of the indicator within the investigated situation can be observed. At the same time, synonyms of the terms – e.g. of the five drivers of inertia – are taken into account for the respective codes and are thus included in the count. For instance:

Name of the driver of inertia	Synonyms taken into account
Cost, costly	Budget, expenditures, expenses, investment, charges, fees, funding/funds, financial resources, expensive
Power, powerful	(strong) interest, strong, potent, dominant
Path-dependency, path-dependent	History, historicity, determined
Legitimacy, legitimate	Acceptance, accepted, support
Uncertainty, uncertain	Unclear, improbable, unknown

Table 3: Synonyms of the five drivers of institutional inertia taken into account (Author, 2020).

For example, respondent 4 states: “Yes, the cost of climate action can be a significant barrier, even if the action is cost-effective”. Thus, this sentence is chosen to be marked with the code ‘cost’. The perception that R3 shares, is coded with ‘power’: “They are trying to scale back the climate and environmental progress that was made under prior Administrations”, referring to the current Federal government led by President Trump, undermining prior work.

As will be explained in detail under 4.3.2.1 (Table 6), one of the highest counts of two co-occurring text-fragments is 12 for the indicators ‘Network Governance’ and ‘Policymaking Process’. The highest amount of text fragments related to a driver is 33 for ‘power’ (incl. its synonyms). These results pinpoint a considerable relationship between the two mentioned indicators as well as the importance of the indicator ‘power’, which should be investigated closer.

In a next step, queries can be run. A query is a “structured search command to locate specific data” (Smalls, 2020, p.11). The example above showed the relationship between the codes ‘Network Governance’ and ‘Policymaking Process’. By running a query with those codes, applying the function ‘and’, all the text-fragments are highlighted, which are coded with both of the mentioned codes. Thereby, intersections and relationships between the two are crystallized. Those outputs serve as a basis for the interpretation of the case and fosters the understanding of the researcher. The results of this analysis are discussed under Chapter 4.

A time-series analysis is applied to the data collected through desk research in order to trace back the history of the city of New York and examine the period of the mandates of the two most recent Mayors of New York City, Mike Bloomberg and Bill de Blasio. The goal is to understand the recent political history of the city and to discover events that potentially triggered an enhancement or a neglect of climate policy. The idea being that during the two mandates, institutional inertia on the Federal level oscillated, and every Mayor had his own approach to tackle it and the challenge of climate change.

Therefore, the data gathered through online research is viewed, assigned to the two mentioned Mayors (2002-2020) (City of New York, 2020) and integrated into a timeline to

facilitate the analysis of the policies and Mayors over time (see Chapter 4). By comparing the two Mayors and their established climate mitigation policies, a ‘most similar systems design’ is applied. This method is based on the theory established by Blatter/Haverland in 2012 (Van Thiel, 2014), the idea being that two or several cases are studied, which are or are expected to be homogenous. Thus, the researcher anticipates similar or homogenous findings as well, which is described as a “replication logic” (Van Thiel, 2014, p.90): “[I]f the same results are found in several different cases, the effects that have been measured” (I.d.) are likely to underline the research’s validity and reliability. By choosing similar ‘systems’, some extraneous variables can be kept constant (Anckar, 2008).

3.3 Operationalization: Variables, indicators

Concept	Definition
Institutional Inertia	Slow movement and responsiveness of institutions to transformation, “stickiness” (Munck af Rosenschöld et al., 2014, p.640) of institutions. Consisting of five drivers: path-dependency, legitimacy, power, uncertainty and cost (Munck af Rosenschöld et al., 2014).
Urban Climate Mitigation Policies	The take of ‘independent’ mitigation policies at the municipal level, i.e. without being tasked for it by the State or Federal government (Jones, 2018). Thus, the city launches ‘own’ initiatives for mitigation through urban climate policies, e.g. the Climate Executive Order (EO26), Local Laws 92 and 94 of the Climate Mobilization Act to green roofs tops and install solar panels, or Local Law 97 introducing a penalty for the violation of building codes for energy efficiency, etc.

Table 4: Definition of the concepts present in the research questions (Author, 2020).

Concept	Dimensions	Indicator names	Indicator description	Source (Literature)	Gathering Method
Institutional Inertia (Independent Variable)	<ol style="list-style-type: none"> 1. Cost 2. Power 3. Legitimacy 4. Uncertainty 5. Path-Dependency 	<ol style="list-style-type: none"> 1.1 Cost-positive 1.2 Cost-negative 2.1 Power pro action 2.2 Power contra action 3.1 Communication w. community 3.2 Claims pro action 3.3 Claims contra action 3.4 Acceptance of policy 4.1 Uncertainty pro action 4.2 Uncertainty contra action 5.1 Path-dependency pro action 5.2 Path-dependency contra action 	<ol style="list-style-type: none"> 1.1 Number of times that costs of mitigation-action are mentioned in a positive way (e.g. new jobs; investment now reduces costs of mitigation in the long-term) 1.2 Number of times that costs of mitigation-action are mentioned in a negative way (e.g. job or economic loss) 2.1 Number of times that arguments are made for mitigation action, strengthening the mayoral power/interest or a particular stakeholder's power/interest 2.2 Number of times that arguments are made against mitigation action, strengthening the mayoral power/interest or a particular stakeholder's power/interest 3.1 Communication of local government with community and special interest groups (<i>present/not present</i>) 3.2 Use of societal claims to foster mitigation policymaking (<i>yes/no</i>) 3.3 Use of societal claims to hamper mitigation policymaking (<i>yes/no</i>) 3.4 Degree of acceptance of mitigation policies by community (<i>high-low</i>) 4.1 Number of times that uncertainty is used as argument for mitigation action (e.g. "opportunity") 4.2 Number of times that uncertainty is used as an argument against mitigation action (e.g. "benefit uncertain") 5.1 Number of times that historical arguments (e.g. past events, processes etc.) are used to foster new mitigation policies 5.3 Number of times that historical arguments (e.g. past events, processes etc.) are used to hamper new mitigation policies 	<ol style="list-style-type: none"> 1.1 Bolsetti et al., 2009 1.2 Bolsetti et al., 2009; OECD, 2010; Jones, 2018; Jordan et al., 2018; Urpelainen, 2011; 2.1 Hughes, 2016; OECD, 2010 2.2 Hughes, 2016 3.1 Jones, 2018; Morrison et al., 2017 3.2 Jordan et al., 2018; Morrison et al., 2017 3.3 Jones, 2018 3.4 OECD, 2010 4.1 Bolsetti et al., 2009 4.2 Barrett/Dannenber, 2012 5.1 Jones, 2018; OECD, 2010 5.2 Jones, 2018; Mahoney 2000 	<ul style="list-style-type: none"> • Interviews • Desk research
Urban Climate Mitigation-Action (Dependent Variable)	<ol style="list-style-type: none"> 1. Establishment of urban climate mitigation policies 	<ol style="list-style-type: none"> 1.1 Policies passed 1.2 Policies considered 1.3 Successful policies 1.4 Policies abandoned 1.5 Network governance 1.6 Policymaking process 1.7 Penalty 	<ol style="list-style-type: none"> 1.1 Amount of mitigation-policies passed by the local government 1.2 Amount of policies being considered 1.3 Amount of successfully implemented mitigation policies 1.4 Amount of mitigation policies abandoned 1.5 Observation of network governance (horizontal multi-actor setting) during the making process of a policy (<i>yes/no</i>) 1.6 Number of times that the process of policymaking is mentioned as having an impact on the outcome (policy) 1.7 Application of a penalty in case of non-compliance (<i>yes/no</i>) 	<ul style="list-style-type: none"> • The author • 1.5, 1.6, 1.7: Klijn and Koppenjan, 2007, 2016 	<ul style="list-style-type: none"> • Desk research • Interviews

Table 5: Operationalization table.

3.4 Expected challenges and limitations

3.4.1 General challenges and limitations

A challenge of desk research is that the researcher has to “plough through a lot of material to find something relevant” (Verschuren/Doorewaard, 2010, p.216). Sometimes, it is challenging to find the most relevant and appropriate data for the own research in the abundance of accessible data. Inevitably, a choice has to be made eventually and data has to be left out. A way to legitimize this is by setting the focus of the desk research on a broader rather than on a deeper understanding (Van Thiel, 2014; Verschuren/Doorewaard, 2010). For example, for the research at hand, the policies introduced by the two Mayors are not laid out and explained in their details. Rather, the most important information is briefly described. Hence, the ‘general understanding’ is favoured.

Since a case study allows for an in-depth investigation of a chosen case (or chosen cases), the result is that the findings are very context specific. The insights gained are internally valid for the very case investigated, but less suitable for generalization: “[T]he small number of units of study [...] can endanger the reliability and validity of case study research” (Van Thiel, 2014, p.92). In order to increase these two, different methods of gathering and processing data can be applied (triangulation).

In terms of the content of the research, the findings are more valid and applicable for cities with a certain sovereignty. In the case of a Federalist country like the USA, it is possible and realistic that a municipality has sufficient political, economic and fiscal power or ‘independence’ to initiate climate action as New York did. Hence, the outcome of the present research might be less applicable for countries, where other tiers than the central government dispose of less power and sovereignty in the first place. Furthermore, the role of the State government has been entirely neglected, and climate policy of the US Federal government has not been well elaborated on neither, both due to time and space constraints. Those limitations turn the drawn picture of the political arena in terms of climate mitigation policy in the US and in NYC slightly incomplete.

In addition, having interviewed two Columbia professors, one present and two former employees of the Mayor’s Office of Sustainability, the picture of the political arena of New York City may appear one-sided. Neither a representative of the stakeholders of the private sector nor a representative of the local community or of a societal movement has been interviewed. Integrating their voices could have contrasted the picture of urban climate mitigation policy in NYC. This should be considered for a future research.

3.4.2 Challenges and limitations due to the COVID-19 pandemic

During the pandemic, it has been impossible to physically go to the case study city, impeding a comprehensive, first-hand research. Furthermore, reaching the responsible people of the Mayor’s Office of Sustainability of New York and other policy experts has been more difficult due to the pandemic, as some workforce of the Office has been pulled-off climate-related issues and reallocated to COVID-19 short-term response. Furthermore, the pandemic-situation may influence the ‘neutral’ and honest answers of the respondents through the current dominance of the topic ‘COVID-19’. In fact, some answers concerning climate mitigation policies in NYC refer to the pandemic, e.g. that especially now, less focus is put on climate policy in order to solve at least short-term problems that the crisis poses. Therefore, the drawn picture of climate mitigation policymaking in NYC might be slightly distorted.

Chapter 4: Presentation and discussion of the results

4.1 Description of the case studied

The research of the thesis at hand focuses on the case study of New York City (NYC), USA. The city experiences a lack of support in terms of climate mitigation policy from the Federal government, which is designated as institutional inertia. At the same time, the City government with its Mayor's Office of Long-term Planning and Sustainability (since 2006; Mayor's Office of Sustainability since 2014) are very active in taking mitigation actions. This observation leads to the assumption that cities might in fact be capable of overcoming higher-tier institutional inertia.

Hence, the problem statement explained at the beginning of the research underlines the underexplored capacity of cities as nodes of effective local action-taking in terms of climate change mitigation – especially, when Federal support is lacking. For the chosen case study, the withdrawal of the Federal government of the United States of America from the Paris Agreement in 2017 is a crucial event (Keeley/Benton-Short, 2019; UNFCCC, 2017). “The next day, Mayor de Blasio signed Executive Order 26, committing the most populous city in the United States to the principles of the Paris Agreement and to developing a pathway to advance the Paris Agreement goal of limiting global temperature rise to 1.5°C” (Mayor's Office of Sustainability, 2017, p.5). Furthermore, over 280 mayors from other US-American cities as well as the Governors from New York State and California decided to commit to the Paris-goals as well. Thus, “pulling out of Paris had the opposite effect of what I think the President and his allies wanted” (R2). However, the action against global warming already started under the formal Mayor Michael Bloomberg, whom respondent 4 considers being “the first leader on climate in New York City” (R4). It was him, who jumpstarted the awareness for the climate and for climate action (R1, R2, R4, R5).

The countless municipal initiatives in New York City underline the ability and the leadership potential of cities to overcome Federal-level inertia in terms of climate mitigation action. On the next pages, the findings of the conducted qualitative research are presented and discussed, looking through the lens of new institutionalism.

4.2 Description of the sample

Respondent 1 is a young woman, who recently finished her internship at the Mayor's Office and her Master's in Environmental Science and Policy at the School for International and Public Affairs (SIPA) at Columbia University. She has been contacted over LinkedIn and a common colleague sent her a private e-mail. This worked well, as she responded instantly and was interested in and available for an interview. Having completed her internship in the domain of buildings energy and greenhouse gas (GHG) emission reduction, she is considered an expert in the topic of climate mitigation policy in NYC.

At the end of the interview, she recommended two individuals, a senior policy advisor at the Mayor's Office and a professor at Columbia University. The latter declined, the former accepted to talk (respondent 3). Being an expert on greenhouse gas accounting, policy analysis and advisory, with a special focus on environmental policy, he has shared important insights about policymaking processes, actors and power-dynamics in NYC.

The common colleague of R1 and the author recommended a professor of public affairs, particularly of sustainability policy and management, at Columbia University at the SIPA. Thanks to a several-decade-long experience as a policy analyst, expert and advisor, and

having worked at the U.S. Environmental Protection Agency and at the Earth Institute (Columbia University), he is a proficient expert on climate mitigation policy, sustainability and policymaking and thus a valuable respondent (R2).

After the interview, he proposed a colleague of his of the SIPA, a senior lecturer for environmental policy at Columbia University (respondent 5). Being a science historian, ecologist and evolutionary biologist, her knowledge and experiences have been of great value for the present research. R5 has shared important information concerning the former and the present Mayor of New York City, Michael Bloomberg and Bill de Blasio, about their leadership and their climate actions, respectively.

At the same time, another policy advisor of the Mayor's Office who had been contacted over LinkedIn responded and recommended a colleague of hers, a representative of the C40 Cities Climate Leadership Group of the North America region and former senior policy advisor at the Mayor's Office, who agreed to respond to the interview questions in written form. Thanks to her diverse experiences in environmental policy, climate change and volunteer work at the United Nations in the domains of gender equity and sustainability, R4 has brought in precious perspectives and thoughts. Furthermore, being one of the creators of the '1.5 degrees'-plan, she is an expert in 'post-withdrawal' climate mitigation policy of NYC.

4.3 Discussion of the results: Trends, patterns, relationships

First, the findings of the desk research are presented. In a next step, under 4.3.2, the findings of the interview analysis are shown. Under 4.3.3, all the findings are critically viewed through a new institutionalist lens.

4.3.1 Presentation of the findings through desk research

During desk research, different policies, plans and executive orders of Mayor Bloomberg and Mayor de Blasio have been examined to understand the history and evolvement of urban climate mitigation policies in New York City. Subsequently, the focus is led on the most important, i.e. most impactful or 'historic' policies, action-plans and executive orders that have been established between 2002 (beginning of Bloomberg's mandate) and today (2020). The choice of the 'most impactful' policies is made based on the information given by the respondents of the research, who often listed the same few policies and actions during the interviews. These have thus been interpreted as having left a mark in New York City's climate policy history.

The descriptions follow a chronological order and are all listed in a timeline below, in order to facilitate the reader's understanding. If considered illuminating, a comment is added below the policy's description containing an interpretation of the action against the background of the theory acquired in Chapter 2.

Two paragraphs containing information about the activity of the US Presidents Bush Jr. and Obama in terms of climate policy are to be found under 4.3.2.2. The author considers the placement of this specific desk research information under a sub-chapter of case study data as valuable, because the contents do match and are most illuminating when read altogether.

Due to time and space constraints, the descriptions are as concise as possible. For further information about the policies and plans, please consult their links provided in the bibliography.

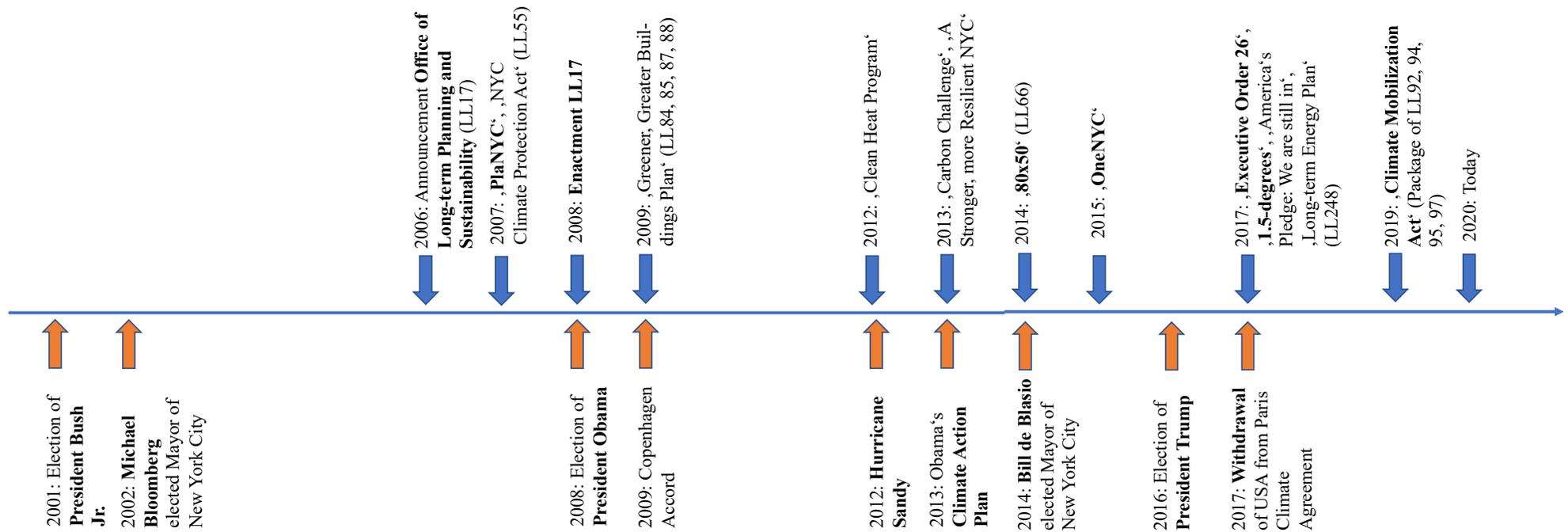


Figure 2: Timeline of climate mitigation policies established during the mandates of Bloomberg (2002-2013) and de Blasio (2014-present) (Author, 2020; based on R1, R2, R3, R4, R5; Bloomberg.org Group, 2020b; City of New York, 2020).

4.3.1.1 Bloomberg, 2006: Announcement of the establishment of the Office of Long-term Planning and Sustainability

The establishment of the Office of Long-term Planning and Sustainability (hereafter referred to as the ‘Office’) was announced in 2006 and enacted in 2008. This was a starting signal for climate action sent by former Mayor Bloomberg. With the Office, he started the pursuit of ambitious climate and environmental goals, eventually turning New York City into the leader of sustainable and green urban development (City of New York, 2008; R2, R3, R5). Therefore, New York City Council published a legislation text in 2008 (Local Law 17 or LL17) presenting the new environmental agenda of Mayor Bloomberg, which contained actions like the creation of the Office, the conduct of a comprehensive greenhouse gas (GHG) inventory for the city as a whole and for the City government specifically, as well as the establishment of synergies between the Office and institutions, which should advise and support it in environmental policy questions henceforth. The duty of the Office is to foster sustainability in the city through environmental and climate policies, programs and actions to mitigate the effects of climate change as well as to adapt the City to them.

Those first steps toward climate action were very impactful for the NYC’s future activity against climate change, and thus triggered an era of urban leadership in terms of climate mitigation policy in New York City. R2, R3, R5 underline further the important positive impact of the GHG inventory on the further development of climate mitigation policy in NYC. Through the unprecedented quantification of GHG emission in the city, the extent to which it had been polluting the air got unveiled. Understanding this important data, Mayor Bloomberg started to take action to reduce NYC’s GHG emissions. Thanks to the problematization of air pollution, which has been NYC’s biggest problem ever since (City of New York, 2013c), the issue became tangible. Thereby, it could be addressed and solutions to air pollution – climate mitigation policies – could be drafted. In a statement some years later, Bloomberg resumes: “[Y]ou can’t manage what you can’t measure” (City of New York, 2013).

4.3.1.2 Bloomberg, 2008: ‘PlaNYC 2030: A Greener, Greater New York’

‘PlaNYC 2030: A Greener, Greater New York’ (‘PlaNYC’) was the first long-term plan for sustainability and climate mitigation of its kind (New York City Council, 2008; R2, R3, R5). It conveys one main message: the aim to reduce greenhouse gas (GHG) emissions by 30% until 2030 compared to the level of 2005 (City of New York, 2011).

In the view of a “growing population, aging infrastructure, a changing climate, and an evolving economy” (City of New York, 2011, p.3), Mayor Bloomberg recognized the challenge the City was facing and decided to “shape these changes with [his] own actions” (I.d.). He underlined the importance of the regular measurement and tracking of PlaNYC’s progress, which is captured in the policy as mandatory, in order to stay on course.

After four years, in 2011, PlaNYC had already achieved considerable targets, like the addition of 200 acres of parks, the provision of expanded, more convenient and more sustainable choices of public transportation, as well as 13% GHG emission reduction compared to 2005. This was mostly achieved through more rigorous building codes to increase energy-efficiency and through the shift to renewables. Furthermore, in 2008, already 97% of the 127 initiatives set forth in ‘PlaNYC’ had been launched since 2007 and over 25 City agencies and other actors had been working together towards the common objective (City of New York, 2011).

4.3.1.3 Bloomberg, 2009: ‘Greener, Greater Buildings’-plan

In 2009, the ‘Greener, Greater Buildings’-plan was established, mostly concerning more energy-efficient buildings, less water and less energy consumption. In New York City, about “two thirds of heat-trapping pollution comes [sic] from buildings” (City of New York, 2009; R1). Therefore, a pack of legislation was passed, containing the Local Laws 84 (‘Benchmarking’), 85 (‘NYC Energy Conservation Code’ – NYCECC), 87 (‘Energy Audits and Retro-Commissioning’) and 88 (‘Lighting Upgrades & Sub-Metering’). As respondents 1 and 3 (R1, R3) explain, the plan generally aims at retrofitting existing buildings to higher energy-efficiency standards and at directly applying those to new constructions.

For instance, the benchmarking directs building owners to annually measure and type in their energy and water consumption into an online tool of the U.S. Environmental Protection Agency (EPA) to track progress. This data is analyzed and evaluated by the City and its agencies to depict insufficiencies. Thereby, building owners can be informed and helped in their retrofitting process to enhance energy-efficiency (City of New York, 2009).

4.3.1.4 Bloomberg, 2011: ‘NYC Clean Heat’

Energy-efficiency was further pushed in 2011 through the ‘Clean Heat Program’ or ‘NYC Clean Heat’, encouraging and assisting building owners in their transition towards “the cleanest available fuels and alternative energy options” (City of New York, 2015). Nearly 6’000 conversions from heating oil to a more sustainable alternative and 65% reduction in the emission of fine particulate matter (PM2.5) could be achieved by 2015, before the program was iterated and renamed into ‘NYC Retrofit Accelerator’. The program provides free advice for building owners on how to retrofit their building and connects them with qualified contractors to apply the adaptation successfully. Climate change is thus mitigated through higher energy-efficiency in heating, lighting and cooling systems, reduced water consumption and the use of renewable energy (City of New York, 2015).

The most polluting heating oils could be phased out and brought the cleanest air to New York compared to the past fifty years (City of New York, 2018). Thereby, around 800 deaths and 2’000 hospitalizations due to cardiovascular or lung diseases could be impeded since 2008 (City of New York, 2013c). The Director of the Office at that time confirmed that through the successful coordination of the whole urban and (to some extent) State marketplace to achieve the common goal – successful collective action in a network setting – the City was enabled to find a solution to one of its biggest problems hitherto (I.d.). Apart from the applied network governance, the application of ‘carrots’ (support, subsidies) instead of ‘sticks’ (fees, penalties) of the program has been a driver of success. Providing free advice apparently incentivized building owners to cooperate, ultimately leading to an outcome that is beneficial for both actors.

4.3.1.5 Bloomberg, 2012: ‘A Stronger, More Resilient New York’

Another topic became more pressing in 2012, as Hurricane Sandy hit the coastal megacity. The storm surge entered the harbor and brought water two or more blocks into Southern Manhattan and other parts of the city. The water did not only damage the local economy in general, but destroyed businesses, city and residential property, infrastructure, interiors and lives. 2 Million people stayed without power, 48 people lost their lives and a damage worth 19 Billion US-Dollars was created (City of New York, 2013a). To avoid another catastrophe, which is very likely to happen eventually due to climate change, the city had to become stronger. Therefore, at-the-time Mayor Bloomberg established the action plan ‘A Stronger,

More Resilient New York’ in 2013, containing recommendations both for the reconstruction of damaged areas as well as for the increase of resilience of existing buildings and infrastructure (I.d.).

The recognition of the risk and danger of adverse climate change effects to the city, followed by the take of actions to mitigate them, is considered an important factor of leadership (R2, R3). Furthermore, action plans help achieving goals by providing several smaller steps with tangible targets. The splitting-up into feasible targets is presumably better understandable and more incentivizing than uniquely seeing the ambitious long-term goal. Therefore, an important driver of successful collective urban climate action is to set clear and tangible targets, and to communicate them understandably (R1). Clear information about which action(s) to take when, is more likely to foster the trust of stakeholders in a policy compared to “wishy-washiness” (R1).

4.3.1.6 Bloomberg, 2013: ‘Carbon Challenge’ volunteer program

In April 2013, Mayor Bloomberg launched the ‘Carbon Challenge’, a volunteer program and “public-private partnership between the Mayor’s Office of Sustainability and leaders in the private, institutional and non-profit sectors who have committed to reduce their greenhouse gas emissions by 30% or more over ten years” (City of New York, 2013b). To support the participants, the Mayor’s Office has been providing resources during their pursuit of “energy-efficiency improvements” (I.d.). More than 100 participants have been taking part in the Challenge, including notable hospitals, universities, hotels and commercial owners and tenants in New York City. Around a quarter of the participants even expanded their commitment to 50% emission-reduction by 2025. In 2019, the first participant committed to 100% emission reduction (I.d.). Collectively, the participants of the Challenge saved energy worth \$190 million a year and lowered their total emissions by 20% on average by 2017, which equals to 70’000 cars taken off the streets (City of New York, 2017b).

It is interesting to observe how a volunteer program happens to be so successful in incentivizing individuals to act collectively for the climate. Against the statement of Ostrom (1990) and Olson (1965), the volunteer-action without a binding contract has been working impactfully. The provision of support in form of resources for the participants to help them retrofit their buildings or units – giving ‘carrots’ instead of ‘sticks’ – seems to be an effective way to foster sustainable urban development, as already discovered through the ‘Clean Heat Program’. R2 underlines: “[Y]ou create incentives for correct behavior. [...] I mean, a policy process is really about creating incentives [...], subsidies as opposed to punishment”. The provision of (financial) support, of an incentive to change the business-as-usual, is a more educative and sustainable way to achieve behavioral change and to transition to a new technology than punishing the former way of doing (R2).

4.3.1.7 de Blasio, 2014: ‘80x50’ (Local Law 66)

Mayor De Blasio started his mandate in 2014, and directly launched one of the most impactful climate policies to present: ‘80x50’ or Local Law 66 (LL66). The reason for the ambitious target-setting was the recognition of “the rapid progress of climate change events and indicators” (New York City Council, 2014, p.1). The aim is to increase “the effectiveness of New York City measures” (I.d.) to mitigate and prepare for adverse effects of climate change. Therefore, in consistency with the plans, actions and policies of ‘PlaNYC 2030’ as well as with the ‘NYC Climate Protection Act’ (LL22) of 2008, de Blasio decided to expand

the 30% reduction of GHG emissions by 2030 to 80% by 2050 (New York City Council, 2014).

4.3.1.8 de Blasio, 2015: ‘OneNYC’

Shortly after, in 2015, de Blasio’s ‘One New York: The Plan for A Strong and Just City’ (‘OneNYC’) was launched, and followed up on the ‘80x50’-target, enriching the goals with the one of climate justice: “inclusive climate action that works for all New Yorkers across four key visions of Growth, Equity, Sustainability, and Resiliency” (Mayor’s Office of Sustainability, 2016, p.5). Furthermore, part of the ‘OneNYC’ commitment was to provide an action-plan on how to achieve the 80%-reduction by 2050 stated earlier. Therefore, Mayor de Blasio and his Office of Sustainability published the document ‘New York City’s Roadmap to 80x50’ in 2016. Therein, the major steps to take in order to achieve the goal to become “the most sustainable big city in the world and a global leader in the fight against climate change” (Mayor’s Office of Sustainability, 2016, p.15) are set out. Part of the strategies to achieve the 80% reduction in GHG emissions is for instance the increase of energy-efficiency in the heating, cooling, lighting and water systems of buildings, a significant decrease of driven miles, a transition to electric or clean-fuel-vehicles as well as “achieve the goal of Zero Waste to landfills” (Mayor’s Office of Sustainability, 2016, p.6). Instead, a bio-waste processing technology would be introduced for organic waste. Furthermore, the transition from finite to renewable resources for the generation of energy has to take place to the highest extent possible (Mayor’s Office of Sustainability, 2016).

To take these steps successfully, de Blasio explains that all levels of government and the private sector have to take collective action, to collaborate and to invest. Only thereby, societal and institutional change could be achieved and “new regulatory frameworks” (I.d.) introduced, all of which are indispensable to achieve the ‘80x50’-goal. Thus, de Blasio acknowledges the mutual interdependency of the different stakeholders, comparable to the network governance theory.

4.3.1.9 de Blasio, 2017: ‘Climate Executive Order’ and ‘1.5 degrees’

A year after ‘OneNYC’, in 2016, the Presidential elections took place and Donald Trump was elected the 45. President of the United States of America. Anticipating a lack of leadership, the Mayor’s Office of Sustainability started considering more ambitious climate mitigation policies henceforth (R3). The anticipation was legitimate, because in 2017, the President decided to pull out of the international Paris Climate Agreement, destroying the hope for further climate action initiated by the Federal level. The day after the withdrawal, Mayor de Blasio stated his resistance in Executive Order 26 (‘EO26’), also known as ‘Climate Action Executive Order’:

“WHEREAS, we must act, and act together at every level, as individuals, as cities, and as global community; and [...] WHEREAS, President Trump’s decision to pull out of the Paris Agreement puts millions of Americans at risk and cities like New York must step up to stop Climate Change. NOW THEREFORE, [...] [t]o protect our residents and all human beings from the effects of climate change, New York City will adopt the principles and goals of the Paris Agreement to deliver climate actions that are consistent with or greater than its own commitments to reduce its greenhouse gas emissions by 80% by 2050” (City of New York, 2017a, p.1).

Furthermore, de Blasio directs all City agencies to collaborate with the Mayor’s Office in order to establish “a citywide plan” (City of New York, 2017b, p.2) with concrete ideas and

actions on how to align the City with the Paris goals, which was released some months later under the name ‘1.5 degrees: Aligning New York City with the Paris Climate Agreement’:

“We had hoped we could depend on federal government for leadership. Now we know we cannot. President Trump’s decision [...] has set us on a dangerous path of denial. [...] When our national government falls down, local governments have to step up. [...] Together, we will show that the people will solve this problem at the grassroots” (Mayor’s Office of Sustainability, 2017, p.1).

The plan contains specific actions the city and its community can take, in order to realize the ‘80x50’-goal to prevent global warming from exceeding the 1.5°C-increase in global temperature compared to pre-industrial levels. The actions are once more related to the city’s biggest polluters: buildings, but also to transportation and waste management. For instance, one of the most impactful ways to reduce GHG emissions in New York City is the adaptation of existing and new constructions to a strict building-energy code, which prescribes a very low-energy design for new buildings and major retrofittings to turn existing ones compatible with energy-efficient heating, cooling and lighting.

Furthermore, since 90% of the city’s current GHG emissions in transportation are due to private vehicles, the city shall invest into improvements of the subway and bus systems as well as in the development of safe bike lanes, smart parking and bike share policies as well as into other options of shared mobility (Mayor’s Office of Sustainability, 2017). Thereby, a share of 80% of sustainable modes of transport shall be achieved by 2050, so that four out of five travels will be either by public transport, bike, foot or shared mode (Mayor’s Office of Sustainability, 2017). Another impactful way to reduce GHG emissions is the implementation “of citywide organic waste collection” (Mayor’s Office of Sustainability, 2017, p.11). Organic waste releases CO₂, toxins and methane into the air when discarded in landfills. Through the separation of bio- and other waste, GHG emissions can be reduced, as already mentioned under ‘OneNYC’.

Against expectations, the recently introduced system of collecting compost in NYC has been suspended, because of the COVID-19-pandemic (R5). This “short-sightedness” (R5) of the urban government to set aside impactful climate mitigation actions to gain more workforce for the combat against the virus is – in the long-term – not beneficial. It’s “bureaucratic inertia” (R5), because climate change does not stop during the pandemic and should therefore not be put aside. The time, during which its mitigation is neglected, will be hard to catch up in the future and climate change will “bounce back even worse” (R5). This is a tragedy of the commons, since no-one ‘has to’ feel responsible for the common good, e.g. for the climate, and no-one is directly punished if climate mitigation is not pursued. In this case, however, the common resource will eventually be depleted, e.g. the global climate will have considerably warmed up at some point, which will affect the survival of the flora and fauna on the planet in some way.

4.3.1.10 de Blasio, 2019: ‘Climate Mobilization Act’

In 2019, de Blasio added onto his previous actions by enacting the ‘Climate Mobilization Act’, the “largest climate solution put forth by any city in the world” (City of New York, 2020b), containing the Local Laws 92, 94, 95, 96 and 97. LL92 and 94 prescribe to install green roofs, solar panels or a combination of the two to all new buildings or such that undergo major retrofits. Thereby, the urban heat island effect is mitigated, and, through green space, carbon sequestration enhanced, while having a cooling-effect on the surroundings.

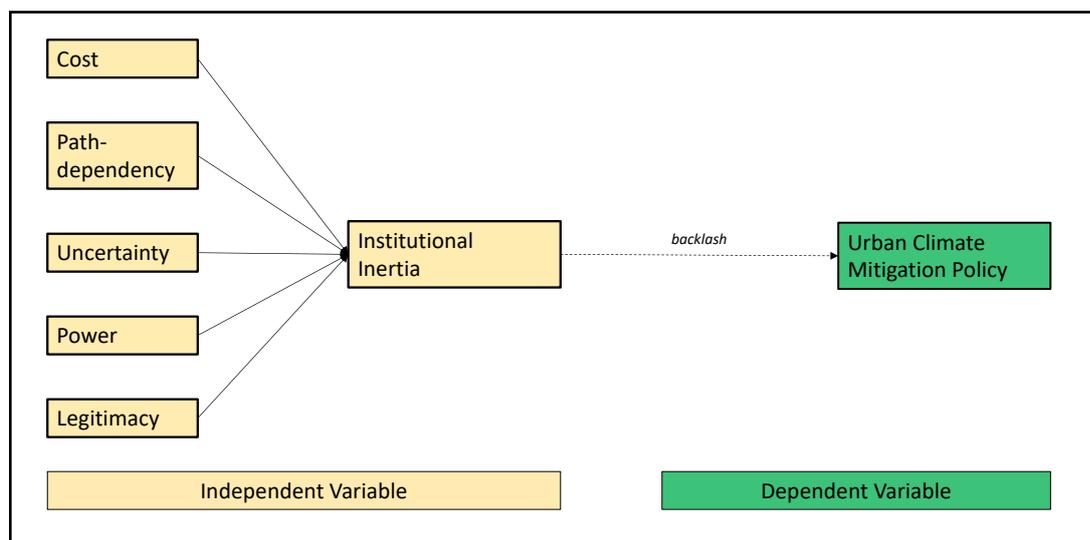
LL95 introduces the display of the energy label of a building at its entrance, showing its energy efficiency score as well as a letter grade indicating its performance level. LL96 introduces PACE (property-assessed clean energy) funding, a financial support for building owners, which should incentivize them to retrofit their building. Finally, the centre piece of the ‘Climate Mobilization Act’ is LL97, requiring stringent targets in terms of CO₂-emission reduction for buildings exceeding the size of 25’000 square feet (around 2’300 square meters). A crucial factor of this policy is the introduction of a fine of 268 US-Dollars per ton of CO₂ which exceeds the annual emission limit of the building (New York City Council, 2019). This may sound like not much, explains R1, but “a single building can release millions of tons of CO₂ a year [...] [and] once you multiply that by the \$268-mark, that’s really substantial fines” (R1).

Interestingly, this is exactly the opposite approach of what was stated earlier (‘carrots’ instead of ‘sticks’), e.g. in the Carbon Challenge. This observation underlines that there does not seem to be ‘one right way’ to draft a policy – *either sticks or carrots* – but rather a balancing-out between some policies that (financially) support building owners to update their building infrastructure to the best possible energy-efficiency standards, and policies imposing penalties on the infraction of emission limits. After North (1990), this makes sense, because formal institutional constraints are needed to frame the space within which individual agency can (or should) take place.

4.3.2 Presentation of the findings based on the in-depth interviews

First of all, the conceptual framework is shown once more to recall the relations between the different concepts of the research question(s). Subsequently, the relationships between different variables, i.e. different indicators analysed within Atlas.Ti, and the trends and patterns found within the results, are explained.

Figure 3: Conceptual framework (Author, 2020).



New institutionalist framework for analysis

4.3.2.1 General observations

The most pertinent factors that are mentioned by the respondents as leading to institutional inertia are ‘cost’ and ‘power’. A reason might be that ‘path-dependency’, ‘uncertainty’ and ‘legitimacy’ are not as obviously traceable as, for example, ‘cost’. For instance, an action or an event that happens due to path-dependency, or which becomes an element of path-dependency for actions in the future, is not as easy to detect in a document or conversation as budget issues. That said, the queries in Atlas applying the indicators of path-dependency, legitimacy and especially uncertainty gave less numerous and less relevant outputs than those with the indicators of power and cost. Even though the count of the codes of ‘uncertainty’ was not that low (see Table 5), the outputs (text fragments coded with ‘uncertainty’) did not provide a sufficient basis to fill an own sub-chapter and/or to make a robust statement. In fact, when asking about scientific uncertainty as a reason for lacking climate mitigation action, R5 argues: “Nah. It’s an excuse. [...] Certainty is rarely going to be what leads to a difference in the policy response”. And R3 agrees:

“I don’t think that it’s uncertainty [...], it’s just an attempt, a successful attempt to present it [climate change] as uncertain. But I don’t think that that’s really what’s happening. From what I understand, [...] scientists are fairly certain about the risks that we’re facing” (R3).

Furthermore, it is noticed that the respondents have different perceptions and opinions concerning the Federal government being inert in terms of climate policy. Since this is considered an interesting finding in itself, the next section 4.3.2.2 is dedicated to the question of the perception of Federal institutional inertia and urban climate mitigation policy.

To allow a better overview of the content analysis for the reader, the next page shows a table of the counts of all the indicators of the research, as operationalized and listed in Chapter 3 (see operationalization table).

Concept	Name of the indicator (code in Atlas.Ti)	Number of times code was applied (count)
Institutional Inertia (IV)	Cost-negative	17
	Cost-positive	15
	Power pro action	33
	Power contra action	33
	Communication with community	12
	Claims pro action (legitimacy)	16
	Claims contra action (legitimacy)	3
	Acceptance of policy (legitimacy)	16
	Uncertainty pro action	7
	Uncertainty contra action	10
	Path-dependency pro action	23
	Path-dependency contra action	7
	Urban Climate Mitigation Policy (DV)	Policies passed
Policies being considered		4
Successful policies		37
Abandoned climate mitigation policy		1
Network governance		32
Policymaking process		50
Penalty		13
Community Action		9

Table 6: Count of the indicators (codes in Atlas.Ti) for the content analysis (Author, 2020).

4.3.2.2 Perception of Federal institutional inertia and urban climate policy

In the conceptual framework, it is stated that the commitment of a city to urban climate mitigation policy is a reaction on the neglect of such by the Federal government due to institutional inertia. Do the respondents actually perceive institutional inertia at the Federal government level?

At the beginning of the interview, respondent 1 directly confirms that there is in fact “[n]o federal guidance for climate mitigation policy” (R1) from the current Federal government, referring to the Trump-Administration. Therefore, cities are “taking what’s lacking on the Federal level and really making it happen on a smaller” (R1) scale, through “more like [a] bottom-up approach” (R1). She specifies that cities are best able to generate a successful climate mitigation policy, since they would tailor it to the specific region, the local economy, industries and people. R4 confirms R1’s statement: “The cities must lead where the Federal government will not” (R4).

Many of the respondents actually think that “Federally [...] it’s more than inertia. Inertia means, that something hasn’t been moving [...] but it’s more confrontational or, or adversarial with the Federal government” (R3), again referring to the current Federal government led by Donald Trump. Respondent 2 adds “I wouldn’t call it inertia; I would call it opposition. [...] [T]hey’re actively doing the opposite [...] it’s actually much worse than inertia”. The Federal government is “actively weakening environmental and climate policies” (R3) that have been established so far. And it’s its formal right, explains R4: Any Federal or State law predominates local law and can suspend it if required. Thereby, the Federal government is working against the best interest of its citizens (R3). R5 concludes concerning the current Federal administration: The situation is, “on the record, highly depressing”.

Current President Trump actively “roll[s] back climate regulations” (Sims Gallagher/Xuan, 2019, p.23; compare R2; R3) that his predecessor had established. President Obama had triggered a shift in climate policy during his mandate “from a passive approach in prior administrations to a sharply focused plan to reduce GHGs” (Sims Gallagher/Xuan, 2019, p.24) by recognizing climate change and the urgency to act as real. A lighthouse climate mitigation policy of his administration within energy efficiency was the Clean Power Plan, which focused on the cut of GHG emissions of power plants by 32% by 2030 compared to 2005-levels. This policy was built up on the impactful piece Climate Action Plan of 2013, where President Obama listed further steps in terms of climate adaptation and mitigation to keep on track with the targets of the Copenhagen Accord of 2009.

However, the US Congress did not pass any further comprehensive climate policy proposed by Obama henceforth (I.d.). This fact describes a momentum of institutional inertia or “a stalemate or a political gridlock” (Kronlund, 2013, p.3) in climate policy under Obama. Nevertheless, he has found his way to break through it: He continued to act on climate change, but only in these manners, which did not “require the backing of the Congress” (Kronlund, 2013, p.3).

On the other hand, President Bush Jr. was sceptical about the reality of climate change at first, then stated that he had been convinced that it was a fact. Therefore, he announced an expansion of the Clean Air Act, which had been induced by his predecessor Obama to encourage climate change mitigation (Agrawala/Andresen, 2001). One year later though, he reversed his standpoint, arguing that in a time of energy shortages, consumers should not be put at risk with actions aiming to save energy, “especially [...] given the incomplete state of scientific knowledge of the causes of, and the solutions to, climate change”

(Agrawala/Andresen, 2001, p. 125). Thus, President Bush Jr. withdrew from the commitments of the Kyoto Protocol in 2001, justifying the decision with the aim to save or protect the US workers and the economy (Id.).

Based on this information, it can be said that uncertainty had a more important influence on the Federal inertia in climate policy under Bush Jr. as under Trump. However, today, twenty years after, science has advanced considerably on the topic of climate change and eliminates uncertainty about it and its effects the longer the more. Bush Jr. seems to have not felt legitimate enough – apart from feeling uncertain – to introduce unprecedented climate policy, which could be explained through a sociological institutionalist perspective.

4.3.2.3 Influence of power on institutional inertia and urban climate action

A lot of his effective actions to foster sustainability, climate mitigation and adaptation, were rendered possible thanks to Bloomberg's wealth, which gave him power. "He could set up a private policy analysis branch" (R5) that enabled him to test some of his policy-ideas. Thereby, he could present rather thought-through policies to City Council, so the chances of the policy to be passed were increased (I.d.). Furthermore, Bloomberg was able to personally finance the monitoring, evaluation and feedback process of a policy that are usually in the budget of the legislator as part of the policy-cycle. Those procedures help to understand, whether the implemented policy has been successful or not and why. Based on the feedback, a policy can be iterated and improved. Often however, as R5 explains, the municipal budget for those steps is insufficient, leading to their neglect. Yet, if these steps lack, it is hard to effectively iterate the legislation (R5).

In short, Bloomberg was "absolutely committed to this idea of sustainability" (I.d.). "His Philantropies-money... Money [...] gives you a voice and gives you power. [...] He made things happen in New York that otherwise would not have happened without his private funds" (R5). Thus, even after his mayoral period, Bloomberg's Philantropies- and private resources exercise power on the realm of climate mitigation policy in NYC. Today, he acts on issues with Bloomberg Philantropies, which he would have wanted to address as a Mayor (R5). Additionally, 'being free' of governmental restrictions, which he had to deal with as a Mayor, enables him and his group to actively take initiative.

In short, the personal commitment to sustainability of Bloomberg has been a substantial driver of urban climate mitigation policy in NYC during his mandate between 2002-2013 and beyond. Respondent 3 explains that he has "recognized the risk to New York City and the planet" and has been taking action ever since.

At the Federal level, respondent 2 explains that the current President Trump and "some right-wing United States Congress members" (R2) leveraged the neglect of climate-related issues, "actively opposing to climate action" (I.d.). Furthermore, respondent 3 adds on to this that the Federal government is trying to use its power to scale back achievements in climate and environmental policy – without even trying to hide this intention. This adversarial strategy can be understood as power that is actively channelled into the opposite direction of climate action.

In addition, on all government levels, there are some powerful stakeholders who "definitely [...] can stall progress" (R3) in terms of climate mitigation policy. Their "[r]eally wealthy interests" (I.d.) contradict with the aim of climate mitigation policies. Thus, for instance, they try to negotiate lower energy standards for their buildings in order to have to invest less. Those are usually "the building owners that collect tens of thousands of dollars of rent per

apartment unit per month of their glass skyscraper, that uses ten times the amount of energy than a normal building” (R1).

This finding underlines the need to have every involved stakeholder contributing to the common goal. If the common goal is not shared, the negotiation of a policy can become an inert process. Due to a slow process of enactment, people’s support for the policy can be lost along the way (R1). Thus, inertia during a policymaking process may have a negative influence on a policy’s impact (R4). However, it has to be relativized that such a process “naturally takes long” (R3), it is not necessarily always inert (R4):

“It’s important when working on climate change to act as quickly as possible, given the time limitations we all face. That said, policymaking will not be successful without sound research and analysis as well as inclusive and comprehensive stakeholder engagement, which take time, normally at least a year” (R4).

Nevertheless, respondent 5 concludes: “There’s always inertia” *somewhere* in policymaking.

4.3.2.4 Influence of cost on institutional inertia and urban climate action

Respondent 3 (R3) bluntly resumes: “[I]t’s really all about costs. [They are] a huge part of providing inertia”. Policies that represent effective and innovative ideas for climate mitigation may not find the needed support, because there are often hidden additional costs, as he explains. Respondent 5 confirms this view by underlining that “the US has put off any kind of action, because it supposedly cost too much. And yet, different accounting will come up with different perceptions of cost” (R5). In addition, there are often “unforeseen circumstances” (R5) after the implementation of a policy, which would cost more money. For example it can happen, that building owners are previously asked to pay a certain amount of money to retrofit their buildings, but ultimately, the amount is tripled (R1). This kind of uncertainty related to the cost of a mitigation action can annoy citizens and thus loose support for a policy, undermining its legitimacy and thus impact.

Consequently, there is often no budget left to ‘close’ the policy-cycle, i.e. to conduct the monitoring and evaluation of an implemented policy. However, as long as there is not enough municipal budget available, the monitoring and re-assessing of a policy are not conducted (R5). This impedes the possibility of improvement, to render the policy more effective or to find more public support for it. In short: The high cost and/or the lack of funding for these steps foster a certain inertia in policymaking.

R5 mentioned the positive impact of templates: Tools like the one provided by STAR Communities (‘Sustainability Tools for Assessing and Rating Communities’), where cities and towns find “a common framework for sustainability” (STAR Communities, 2012, p.8), can help municipalities to improve their sustainability and liveability. STAR’s templates provide evaluation criteria and information of how to achieve sustainability goals. This pushes people and cities further whilst not spending a lot of money, because a paved way is followed. Similarly, the C40 Cities encourages the sharing of knowledge, experiences and best practices concerning sustainable urban development amongst the cities in the network (R5). This enables cities to efficiently leapfrog to a more advanced level of development, ‘overjumping’ unnecessary or not-functioning practices that other cities have experienced. Thereby, time- and cost-effective sustainable urban development can be fostered. This leads back to the definition of institutions within sociological institutionalism by Hall/Taylor (1990), who stated that “templates for behaviour” (p.948) would help individuals in their choice of an action, and thus would help decrease transaction costs.

4.3.2.5 Influence of legitimacy on institutional inertia and urban climate action

After the withdrawal of the US from the Paris Climate Agreement – the culmination of institutional inertia of the Federal government – a solidarity arose between citizens in the shared unacceptance of President Trump’s decision: The “people in New York banded together against the common enemy: The President of the United States” (R2) and started fostering local action even more. In fact, the withdrawal depicts a historic event in international climate policy, which led to path-dependent actions starting from the day after. Part of this movement were the former Mayor Bloomberg, other mayors of US-cities as well as corporates, who jointly chose to represent the US in achieving the Paris targets (R2). Respondent 4 adds that “many cities, states and other actors stepped up to make new commitments and pledges regarding climate action”. The act of the President was perceived as illegitimate, not only by New Yorkers, and united the climate activists.

R4 specifies that Mayor de Blasio’s ambitious actions since 2016 “are incentivized by [...] the actions/inactions of President Trump” (R4), whose lack of leadership in climate mitigation policy results in its opposite: climate action at the local level. Furthermore, Mayor de Blasio is closely aligned with the Bloomberg-Administration – hence the ‘most similar systems design’ – and builds up on what he achieved (R1). Therefore, there is a certain legitimacy in de Blasio’s work, amplifying the welcomed work that has been done by his precursor (R1, R4).

Furthermore, de Blasio works closely together with the Democrat Council member Costa Constantinides. He’s “the driver” (R3) of climate policy in Council, and thus helps the Mayor’s Office of Sustainability to push them forward by mobilizing support for the policies in the Council. Through this fruitful collaboration, legislation has been promoted, supported and passed more quickly (R1, R2, R3).

This rewarding connection underlines the logic of interdependency between stakeholders in a network, acknowledging mutually the power and usefulness of the other’s resources. Through the combination of their skills, the two actors contributed to a collective action and gained a result, which is of value for both of them. Ultimately, it does not only benefit an entire local or nationwide society, but flora and fauna as a whole, as the climate is a common good, of which every being on earth profits. Thanks to their collaboration and their take of leadership, another step has been made towards the attempt, not to deplete a common resource.

4.3.2.6 Influence of path-dependency on institutional inertia and urban climate action

It can be stated that the initiative of Bloomberg to establish an Office of Long-term Planning and Sustainability is the basis for the mitigation actions launched henceforth. If this Office had not been created, maybe there would not be as many, as stringent, as tailored and as thought-through climate mitigation policies present as there are today. In fact, based on the collected data, Bloomberg has triggered a whole new era of climate action (R1, R5). Therefore, it can be assumed that the successful climate policies established by the Office and later by the Mayor’s Office are path-dependent to Bloomberg’s initial actions. Hence, a lot of the actions of the de Blasio-Administration are built on the basis of Bloomberg’s work (R1).

Furthermore, “Hurricane Sandy is the precursor of all of these conversations” (R1) states respondent 1 concerning reasons for more rigorous climate mitigation policy in NYC. When Sandy hit NYC in 2012, the inhabitants experienced a foretaste of what ‘adverse effects of climate change’ can look like in the. Therefore, the awareness for the existence of climate change and for its urgency has been rising since then, and actions to mitigate it have been

fostered (R1, R2, R3). The event underlined mitigation policy, because the city had to spend billions of dollars after the superstorm had hit it for cleaning out the flood and damage, for lost economic productivity and power outages (R1, R2).

The election of President Trump in 2016 and his decision to step out of the Paris Agreement in 2017 were historic events on the timeline of climate mitigation action. As already mentioned, after the President's election, in anticipation of lacking leadership in the upcoming years, the Mayor's Office started to consider more stringent climate policies (R3). After the withdrawal, EO26 and '1.5 degrees' were established, clearly outlining a more serious and goal-oriented and rigorous climate agenda due to the event (R1, R2, R3, R4, R5).

4.3.2.7 Influence of other factors on institutional inertia

Other obstacles that the respondents perceive as potentially leading to inertia in urban mitigation policy is insufficient communication, time-lag and a lack of leadership. Respondent 1 (R1) explains that the “wishy-washiness” of what people have to do, due to several policy iterations, can cause inertia, since it either confuses or just bothers the citizens. First, they have to paint their roofs white to increase albedo, shortly after, an iteration or new policy directs building owners to put green roofs instead of white ones, all whilst having to pay the entire or a part of the cost by themselves. This can upset and/or confuse the citizens, likely to lead to disobedience to the policy or to slow (inert) action. R1 points out a problem of communication in there, where the legislator is unintentionally misinforming or insufficiently informing the people of what should be done.

Time-lag refers to events like the COVID-19 crisis or 9/11. Events like these shift the focus of the people and political actors from daily urgent topics, e.g. climate change, to this highly topical event. Thus, both physical work force and mental energy as well as other resources are reallocated to the handling of the event – e.g. from climate change to COVID-19 short-term response – whilst ‘forgetting’ about other pressing, but less manifest topics (compare R1, R5). This is “counterproductive and short-sighted” (R5) for the abandoned topics, because climate change does not pause during COVID-19.

When Mayor Giuliani was in office during 9/11, every issue that was not related to the attack had been put on hold and not pursued anymore (I.d.). Respondent 5 states that in those cases, but especially for COVID-19, there would have been simple measures to take, but

“they didn't do it. There was no leadership at the top. [...] Climate change is going to possibly bounce back even worse, because we're distracted. And what we need, is some leadership that keeps multiple issues at the fore” (R5).

Therefore, lacking leadership is depicted as another obstacle to effective urban mitigation policy. As mentioned earlier in the analysis, after President Trump's election, the Mayor's Office of Sustainability started considering more ambitious policies, because a lack of leadership at the Federal level was anticipated (R3).

Respondent 3 elaborates his perception that globally, leaders are not successful enough in terms of climate mitigation, otherwise something would be changing. Humanity is not “winning this fight right now, and so that means that all forms of leadership need to [...] go further” (R3).

4.3.2.8 Network governance in New York City policymaking

According to respondent 1, there are several moments during a policymaking process where actors can express their perspective on the policy. For example, there is the ‘Table for

Negotiations’, a round table discussion initiated by de Blasio, where stakeholders like NYSERDA (New York State Energy Research and Development Authority), the Building Energy Exchange, the Low and Moderate Housing Community, the disadvantaged communities and the Department of Housing Preservation and Development and others can participate and exchange their views.

Furthermore, there are well-informed stakeholder-groups involved, as well as the different agencies of the city. The City’s Legislative Affairs Office is responsible for bringing the policies to all relevant agencies (R1). In one or several meetings, issues that the stakeholders have with the policy are discussed, as well as anything “that needs to be fixed from the City Hall’s standpoint” (R3). Then, the City Council is informed and hearings in City Hall take place. Alongside with the City Council and the Mayor holding public hearings to inform about a new local law, often also already during its making, the City’s government website is very informative and gives the community a chance to express thoughts, recommendations and complaints to the Mayor’s Office.

Through the mentioned ways, all possible concerned actors and the community are involved in the policymaking process and can express their perspective, which underpins the theory of Network Governance by Klijn/Koppenjan. Despite the Mayor being *de facto* hierarchically higher positioned than the other actors, New York City succeeds in involving them horizontally, giving the possibility to everyone, who wishes to share thoughts, to speak up. Therefore, rules of institutional structure have to be followed, like acquiring a card before the City Hall hearing in order to be able to speak up. Respondent 4 concludes:

“Many different groups are involved if it’s done well. Stakeholder engagement includes everyone that could be impacted by a policy from residents and community groups to industry representatives as well as different levels of government and a broad swathe of government agencies” (R4).

In addition, the network-like character of alliances like C40 Cities, ICLEI or even STAR Communities, where help is provided by cities for cities, fosters in different ways the implementation of a sustainable urban development. Bloomberg for instance is a founder of C40 Cities Climate Leadership Group. Its aim is to foster the work and action potential of cities by sharing best practices of cities for cities.

4.3.2.9 Discussion of the findings through the lens of New Institutionalism

The definitions of institutions provided by the different authors introduced in chapter 2 do make sense when applied to policies. Policies can be seen as providing a “stable, but not necessarily efficient” (North, 1990, p.6) structure for individuals to orientate their actions at. They are formal rules, which support the institutional regime (Munck af Rosenschöld et al., 2014) and “the organizational structure of the polity” (Hall/Taylor, 1990, p.938) they are embedded in. Therefore, policies are institutions.

Based on the collected data, it is observed that all three strands of new institutionalism are visible to a certain extent. This makes sense, since they represent ideal types in theory, where they can be easily distinguished, but in reality, they’re interwoven and the borders between the three strands are blurred. The most dominant strand observed in the setting of NYC though is rational choice institutionalism (RCI). RCI fits to the actions of the Federal government and the ones of certain actors during policymaking processes, which have been leading to institutional inertia. Actions pursuing the proper interests to maximize utility (rational choice) as well as the strategic thinking to satisfy those proper interests coincide with RCI. For example, R1 tells about the individual interest of some affluent building

owners in NYC, who cause a slower or inert policymaking process by advocating for less stringent climate mitigation policies in order not to lose their financial benefits (i.e. monthly rent). This action happens at the expense of the collective, thus of all other involved stakeholders, which threatens the beneficial outcome: an effective policy. Therefore, the content-wise richest sub-chapters of Chapter 4 discuss the relationship of ‘power’ and ‘cost’ in the case situation. Furthermore, the observed phenomenon coincides with the tragedy of the commons introduced by Hardin (1968), to the free-rider problem and to the prisoner’s dilemma alike.

In addition, RCI describes institutions as marking the space, wherein human interaction takes place. This corresponds with the case study as climate mitigation policies define the ‘space’ or the extent to which GHG are allowed to be emitted (e.g. building-emissions limit), helping the individuals achieve their goal: climate mitigation.

The continuation of Bloomberg’s environmental and climate legacy by de Blasio is perceived as legitimate, since the former had already established a consciousness and acceptance for climate change, which paved the way for further climate action by de Blasio. Thus, accepted (legitimate) institutions (policies and ‘ways of doing’) under Bloomberg have been transmitted or resumed by de Blasio, who has been taking similar, if not more ambitious action. In short, both Mayors have been trying to make New York become the leading city in sustainable urban development, green and just growth, which is connectable with sociological institutionalism’s (SI) understanding of a context-specific culture with values and norms that only evolve further if it can be legitimized.

In this context, this would mean that thanks to the established culture of the New Yorkers and of Bloomberg to invest themselves into climate mitigation policy, further climate mitigation policies are more likely to be legitimate and adopted, because they mirror the city’s values and culture (Hall/Taylor, 1990). However, this example can also be explained through path-dependency and would thus be better viewed out of a historical institutionalist (HI) perspective. History does play a role, as the institution that Bloomberg established (acting on climate change) has been resumed and followed. Thus, the continuation amplifies the effect of the institution, which explains the trend of de Blasio as being more ambitious in terms of his climate mitigation agenda. The applicability of both strands in this example underlines the interconnectedness of the three strands in reality, whereas they are ideal types in theory.

Traces of HI are also found within the different power relations between the Federal and urban government (Hall/Taylor, 1990). The part of HI taken over from group theory is applicable to the context: The polity established by the Federal government constructs a discord in the country, to which the urban level reacts, leading to a conflict about “scarce resources” (Hall/Taylor, 1996, p.937): the atmosphere and the climate. Consequently, individuals and groups connected and formed networks or organizations, sharing the same interest: acting against global warming and thereby banding “against the common enemy” (R2). The policies for climate mitigation that New York City established do fit into the local organizational structure of the polity, to the culture of climate action. Thereby, the different (power) dynamics sensed between the Federal and urban government level are underlined. If more time and physical fieldwork at the location had been possible, this observation of power dynamics and the historicity of the city and its institutional structure would have been better understood.

4.3.3 Summary of and critical thoughts about the results

4.3.3.1 Summary of the results

In this chapter 4, the results have been discussed and viewed through a new institutionalist lens. It can be summarized that all in all, the conceptual model of the research at hand is applicable. The five drivers mentioned in the literature have been traced in the studied case and have been confirmed to be contributing to institutional inertia, although it is hard to separate them in an analysis of empirical data. However, the driver ‘uncertainty’ has been less traceable and observable, even though corresponding questions have been asked during the interviews. Therefore, the driver is considered to be less influential in the studied case during the chosen period (2002-today).

Yet, desk research unveiled that President Bush Jr. was influenced by scientific uncertainty concerning climate change, which made him refuse to initiate any climate change mitigation action like climate policies. Due to time and space constraints of this research, it has not been possible to investigate in more detail the role and actions of the different US-Presidents in the period of question, except for the most recent ones of President Trump.

Nevertheless, the drivers of institutional inertia ‘power’ and ‘cost’ have proven to be very influential during Mayor Bloomberg and Mayor de Blasio’s mandates. ‘Path-dependency’ has been noticed predominantly in connection to Mayor de Blasio, although mostly as an encouraging factor for urban climate policy and less as a driver of inertia. ‘Legitimacy’, on the other hand, has been present continuously, without playing an outstanding role.

Furthermore, taking leadership (R3) has proven to be a game-changing factor in initialising urban climate mitigation policy in the case study at hand: Both Bloomberg and de Blasio have applied their leadership capacity, activated the leadership potential of New York and induced a leap towards a more sustainable and climate-friendly urban future by taking ambitious climate actions: For instance, the establishment of the Office of Long-term Planning and Sustainability, PlaNYC, 80x50 or the Climate Mobilization Act – all of these actions have been taken by a committed mayor, who listened to the call of science and to his professional environment, responding to the urgent need for climate action.

Both of the Mayors’ take of action in terms of climate change mitigation can be described as what Munck af Rosenschöld et al. (2014) name “agency within institutional arrangements” (p.646). At the same time, all concerned stakeholders have been integrated in the policymaking process, ensuring a transparent and horizontal way of collective action. These tied forces achieve the *opposite* at the urban level of what the current Federal government of President Trump aims at (R3): climate change mitigation.

4.3.3.2 Critical thoughts

The lens of new institutionalism (NI) is a comprehensive framework to investigate the state-of-the-art situation of the case study at hand in terms of institutional inertia and urban climate mitigation policy. It is challenging though to distinguish the three strands in an empirical situation.

However, a bias has been noticed, which fosters the tendency to see RCI more obviously than the other two types of institutionalism. The bias happens, because the indicators matching RCI – ‘cost’ and ‘power (compare table 2, Chapter 2) – happen to be the best visible indicators amongst the five drivers within the situation that was investigated and with the research methods applied. Furthermore, as mentioned under ‘limitations’, the constraints due to the COVID-19-pandemic have not allowed to spend time in NYC. Therefore, actively

taking part in discussions or accompanying stakeholders on an entire journey of a policymaking process from the draft to its passing in City Council has not been an option. Yet, historical and sociological institutionalism (HI, SI) show themselves exactly in the experienced life and history of the city. For example, SI implicates an anthropological, cultural perspective, which can only be experienced when living among and interacting with the local people. To underline the bias and to summarize the findings, a table has been created (see below), showing the investigated period, mayors, indicators, their influence on Federal institutional inertia and applicable strand of NI.

Furthermore, the discovery of ‘leadership’ as a crucial driver of urban climate policy is a surprising finding through the lens of NI: NI as a theory underlines – as explained in Chapter 2 – that too much attention is given to the individual, whereas the role of society and of institutions is neglected. Therefore, observing that the committed agency of an individual (i.e. Mayor Bloomberg and Mayor de Blasio), the take of leadership, has been a game-changing factor in the studied case, challenges the new institutionalist perspective. Without a doubt, society and institutions do play a crucial role in human behaviour and agency. However, based on this finding, it can be stated that individual agency itself is of high importance as well.

Nevertheless, there is also a logic behind it: The authors Berger/Luckmann (1966) explain in their sociological classic “The social construction of reality” that an individual can start a new institution by applying a ‘new way’ of agency. Consequently, other individuals in his surrounding observe the individual and may want to acquire the same way of agency. By imitating the individual’s actions, the other individuals internalize the new ‘way of doing’ and thus sustain it. Eventually, the agency becomes a new institution (Berger/Luckmann, 1966). Therefore, Bloomberg can be seen as this ‘first’ individual, who dares to apply a different way of agency: starting to take unprecedented climate action in the shape of ambitious climate mitigation policy. Other people supported his initiative, most importantly his successor Mayor de Blasio, who has resumed his agency and has been further developing it to date. The new institution, again, delineates the space in which de Blasio may act. Yet, this an ideal type of explanation – the supporting role of other individuals, institutions and factors in the described scenario need to be investigated further in a future research.

In the table below, the five drivers’ influence orientates at a five-step Likert Scale, from “significant”, over “rather significant”, “modest” to “rather weak” and “weak” influence based on the present data analysis. Despite the earlier stated, the influence of uncertainty is noted as “significant” under Bush Jr. and Bloomberg in the table. This refers back to the ‘scientific uncertainty’, which Bush Jr. claimed as a reason for not taking climate action.

If a strand is put in brackets, it signifies that it is visible to a low extent. That said, NI is still considered a valuable framework for the examination of institutional inertia. However, for next researches, it is recommended to choose data collection methods, which include the possibility to actually detect factors of historical and sociological institutionalism as well.

President	Mayor	Driver	Degree of influence on Federal institutional inertia	Strand of NI applicable
Bush Jr. (2001-2009)	Bloomberg (2002-2013)	Cost	rather modest	RCI, SI
		Power	significant	
		Legitimacy	rather significant	
		Path-dependency	modest	
		Uncertainty	significant	
Obama (2009-2016)		Cost	rather significant	RCI, HI, (SI)
		Power	significant	
		Legitimacy	modest	
		Path-dependency	significant	
		Uncertainty	low	
	de Blasio	Cost	significant	RCI, SI (HI)
		Power	significant	
		Legitimacy	modest	
		Path-dependency	significant	
		Uncertainty	low	
Trump (2017-)		Cost	significant	RCI, HI, SI
		Power	significant	
		Legitimacy	significant	
		Path-dependency	significant	
		Uncertainty	low	

Table 7: Summary of the US-Presidents, NYC Mayors and of the influence of the five drivers on the Federal institutional inertia in climate mitigation policy (Author, 2020).

Chapter 5: Conclusions

Chapter 5 focuses on answering the research questions, starting with the sub-questions (5.1), on summarizing the importance and validity of the research (5.2), and on presenting final recommendations to the research (5.3).

The purpose of the study has been to investigate the case of New York City in order to find out, how Federal-level institutional inertia in terms of climate mitigation can be overcome through the launch of urban-level climate mitigation policies. At the same time, it has been aimed to detect the existing five drivers of institutional inertia (cost, legitimacy, power, path-dependency and uncertainty) in the ‘real-life setting’, whilst embracing the possibility to discover further potential obstacles to a smooth making process of climate policies, which would complete the five drivers.

5.1 Answering the research question(s)

5.1.1 Which ones are the characteristics of institutional inertia?

Based on the literature, institutional inertia is the “stickiness” (Munck af Rosenschöld et al., 2014, p.640), i.e. the slow responsiveness, the resistant, passive character of institutions. Consequently, a creation or change of an institution is hard to accomplish and can only be induced through successful collective human action. If a policy is seen as an institution and a policymaking process as its establishment, this means that all involved stakeholders share a responsibility to achieve the common beneficial outcome – they are interdependent and thus equally important in the process. Therefore, all actors have to contribute their resources and to align with the common goal to succeed. If one or more actors prefer to pursue their own interests instead, the collective action is stalled and risks becoming inert. Reasons for such an inertia are after Munck af Rosenschöld et al. (2014) cost, power, path-dependency, uncertainty and legitimacy. In the case of New York City, cost and power are the most impactful drivers, followed by path-dependency and legitimacy, and lastly, by uncertainty, of which nearly no traces have been tracked. Additionally, the factors ‘lack of leadership’, ‘time-lag’ and ‘insufficient communication’ have been detected as further obstacles to a smooth policymaking process.

In academic literature, no framework has been found to trace a process’ effectiveness, whereas strategies to trace the effectiveness of a policy’s implementation (‘performance management’) do already exist. Therefore, the proposed idea of ‘*process* performance management’ is worth to pursue, examining its sense, functioning and applicability. If it – or a similar tool – works, institutional inertia within a policymaking process could potentially be decreased or prevented.

5.1.2 Through which processes is urban mitigation policy established in New York City?

In the case of New York City (NYC), the take of leadership by Mayor de Blasio as well as Mayor Bloomberg and integrating equally all involved stakeholders in a policymaking process have shown to be factors through which the institutional inertia depicted at the Federal government level has been overcome. The recognition of risks to the city and its citizens is the first step in taking leadership and inducing action. Subsequently, the risk can be problematized and then addressed based on this data. Bloomberg for instance problematized NYC’s biggest issue (‘bad air quality’) by introducing a GHG inventory. The

gathered data helped him to understand the level of urban pollution and to recognize the threat that is tied to it. This realization was a crucial basis for managing the problem and inducing change.

One of Bloomberg's first and most impactful actions after the inventory was the establishment of the Office of Long-term Planning and Sustainability, which paved the way for further climate action in terms of mitigation and adaptation in New York. In the present case, the Mayors Bloomberg and de Blasio constitute the "agency within institutional arrangements" (Munck af Rosenschöld et al., 2014, p.646), which has enabled NYC to overcome the higher-tier institutional inertia. Both Mayors have shown leadership capacity by not only acknowledging the effects of global warming as a certain threat, but also actively acting on it, whilst including all concerned actors equally. The importance of their individual agency does not fully correspond to the notion of NI, which states that too much attention is given to the individual, while neglecting the role of society and of institutions for human behaviour.

5.1.3 Which impactful climate mitigation policies has New York City come up with between 2002-2020 in order to overcome the national institutional inertia?

In chapter 4, several impactful policies have been discussed. Based on the information of the respondents and the analysed content of the policies, it can be concluded that four of them seem to be of great impact: Bloomberg's 'PlaNYC', de Blasio's '80x50', '1.5 degrees' as well as the highly ambitious 'Climate Mobilization Act'.

'PlaNYC 2030' of 2008 is revolutionary, because it's the first ever long-term plan for urban sustainability and climate change mitigation (New York City Council, 2008). Bloomberg stated his recognition of the need of a sustainable way of urban growth in the view of a "growing population, aging infrastructure a changing climate and a growing economy" (City of New York, 2011, p.3). Hence, he introduced the goal of 30% GHG emission reduction by 2030 compared to 2005. The policy was resumed by de Blasio in his '80x50' plan in 2014, stating an unprecedented ambition: Recognizing the "rapid progress of climate change events and indicators" (New York City Council, 2014, p.1), he aimed higher than his precursor and introduced a GHG emission-reduction by 80% by 2050 compared to 2005.

The day after the withdrawal of the USA from the Paris Agreement in 2017, de Blasio showed leadership by committing NYC to the Paris goals through the action plan '1.5 degrees: Aligning New York City with the Paris Agreement'. Climate mitigation goals were taken to a higher level in 2019, by the 'Climate Mobilization Act', a package of local laws prescribing a stricter building energy code to increase energy-efficiency. Local Law 97 however is the most painful policy for owners of non-energy-efficient buildings: A penalty of \$268 per ton of CO₂ that exceeds a certain emission limit has to be paid. Knowing that buildings can emit millions of tons of CO₂ a year, this fine is substantial.

5.1.4 Based on the fieldwork outputs of this thesis, which of the three strands of New Institutionalism describes best the institutional inertia observed at the US Federal government level?

Even though all three strands are visible in the case of New York City and the USA, rational choice institutionalism (RCI) is the most visible one. Actions of the Federal government, as well as of involved stakeholders on the urban level, pursuing the own interest to maximize the individual profit at the expense of the common benefit, does fit into RCI. The self-

concentrated actions stall either climate mitigation policy at the Federal level (e.g. withdrawal of the US from the Paris Agreement in 2017) or certain policymaking processes at the urban level (e.g. building owners negotiating lower building standards to invest less) – all of which leads to a level of institutional inertia.

Nevertheless, this result has to be savoured with caution, since a bias has been noticed towards the impression of predominantly seeing RCI in the New York City-case. This is, because the data collection methods have been limited due to the COVID-pandemic and to time-constraints: A physical participation at urban policymaking or other events over a longer period to trace better historical and sociological institutionalism has not been possible.

5.1.5 To which extent can cities overcome higher-tier institutional inertia through facilitating urban mitigation policy?

In short, cities that dispose of a certain sovereignty – as in Federal nation states like the USA – do have the entrepreneurial potential and leadership capacity to launch ‘own’ climate mitigation action to go beyond Federal commitment. As the case of NYC shows, if the Mayor recognizes the risk of climate change and commits to take action, a city can become a role-model in sustainable urban development and provide a liveable urban environment to its citizens.

Not to mention, cities are embedded in a certain institutional and organizational context of multi-level governance, which they cannot be untied from. Thus, even though certain cities like NYC may dispose of a certain extent of independence, they are never fully independent and still have to follow higher-tier rules. If, however, the different government tiers are not aligned in a particular topic – like climate policy – cities *do* have the potential to act, to foster inclusive, democratic (‘horizontal’) ways of interaction between involved stakeholders in a policymaking process, and to establish effective climate change mitigation policies. There *can* be action, where the nation state leaves a void; climate change policy does not mandatorily have to lag behind scientific evidence: Cities are capable of being this missing link between science and climate action – if they are led by someone, who recognizes the urgent need to act and really provides the “agency within institutional arrangements” (Munck af Rosenschöld et al., 2014, p.646) that is needed to overcome institutional inertia in climate mitigation.

5.2 Relevance of the research and validity

The thesis at hand adds to the existing body of literature by providing new data and insights to the role of cities in climate mitigation policy within institutional arrangements. As Hughes (2016), Johnson (2018), Jones (2018) and Van der Heijden (2019) state, information about the leadership capacity of cities in taking climate action as well as about their position in climate policymaking is still scarce. Furthermore, Hughes (2016) underlines the lacuna in academic literature concerning the influence of institutional constraints on urban climate policy, which has been addressed in this research.

Munck af Rosenschöld et al. (2014) pinpoint the need for further research about the five drivers of institutional inertia that they described in their research, which has been the main objective of this research. In addition, the application of a new institutionalist lens on institutional inertia – proposed by the same authors – has been successfully used as a framework to analyse the case study of NYC. Moreover, the theory-classics of Ostrom (1990), North (1990), Hardin (1968) and Olson (1965) about the tragedy of the commons,

collective action problems and the role of institutions for human agency have been integrated in the analysis of the case, allowing for enriching insight.

In short, several niches are – at least partially – filled, and several researches are taken up with the thesis at hand, paving the way for further research in climate change mitigation policy and institutional inertia (for recommendations: see below). Therefore, the thesis is considered relevant and legitimate. The collected data corresponds with the intended research objectives, which confirms the maintenance of validity. Even though the gained insights might be applicable to cases in a similar setting, the findings are very context-specific to New York City and the USA and are not easily generalizable. Through the consultation of different sources of data and data collection methods (triangulation), the data is considered reliable.

5.3 Recommendations for mayors and further research

Based on the gained results, the following can be recommended to mayors who are interested in taking climate action: If the risk of climate change to the specific city is recognized, the commitment has to be stated to invest mentally, physically and financially into climate mitigation policies. A best practice of New York City has been to problematize the issue by quantifying it, in order to render it manageable (e.g. GHG emissions inventory to see the extent of damage in air pollution). Furthermore, it has proven helpful and impactful to create an office or unit that is uniquely dedicated to sustainability and climate issues, and which has the capacity to channel all its energy and workforce into climate action. Through action plans, which spilt ambitious goals into tangible targets, motivation and recompense can be held up. Furthermore, the application of ‘carrots’ (subsidies, support) to achieve behavioural change has proven impactful, whereas ‘sticks’ (penalties) still work effectively for change in the built environment (e.g. emission limit). Policies combining the two thus represent a best practice.

In the policymaking process, it has proven rewarding to integrate all concerned stakeholders and to give them equally the opportunity to express themselves about the policy. Due to interdependency, every stakeholder is equally necessary and important to achieve the common beneficial goal. Therefore, nobody in the network should be neglected or highlighted. In short: Do consider ‘governance’ instead of ‘government’.

At a later stage, it is indispensable not to set awarding policies aside in case of an external shock like 9/11 or COVID-19. Climate change does not stop and will rather bounce back worse after having suspended climate policies – thus, do not stop them, if you aim at achieving a long-term change.

Even though the results of the thesis at hand may apply slightly better to more sovereign cities, less independent cities and mayors should not quail. For those mayors, it is important to see these results and recommendations as incentives to empower the own city and to start climate action on a smaller scale, through smaller actions, because every single action – if policy or awareness-raising campaign – is an important step towards a more conscious and sustainable urban future.

Further research is needed to investigate more thoroughly the perception of institutional inertia and active opposition to climate policy: Does the latter have a different effect on urban climate policy than inertia?

In addition, the importance of leadership in (constraining) institutional arrangements and as a solution to institutional inertia poses a highly passionate topic for further research, too. Research on the importance of leadership is represented in academic literature, yet, leadership in the role of a mayor and in the context of urban climate policy “within institutional arrangements” (Munck af Rosenschöld et al., 2014, 646) is still to be explored more thoroughly. Moreover, the individual agency, which challenges the notion of NI, as well as the role of the creation of new institutions in a situation of institutional inertia provides a basis for further research.

Furthermore, more thorough investigation of the three strands of new institutionalism as a framework to spot institutional inertia in real-life settings is needed and thus recommended. The future research should be tailored specifically for this endeavour, by applying a data collection method that allows for personal, physical participation at the local (work-)life and for spending enough time to discover more ‘hidden’ relationships in terms of power and of the history of the city. This will enable the researcher to unveil factors of sociological and historical institutionalism as well.

Lastly, the proposed ‘process performance management’ to monitor policymaking processes to preclude inertia is not at all explored yet and offers research possibilities. Its functioning, sense and feasibility are still obscure and need to be illuminated.

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Annex 1: Research instruments and time schedule

Annex 1.1 Interview guide

Introduction

My name is Franca Fellmann, I am a Master student at the Institute for Housing and Urban Development Studies (IHS) at Erasmus University Rotterdam, The Netherlands. In the frame of my Master's thesis, I am investigating the topic "*Overcoming Institutional Inertia: How Cities Can Foster Urban Mitigation Policy*", focusing on the City of New York and climate change mitigation actions that have been undertaken locally. Therefore, experts in urban policymaking are highly important and valuable key informants in my research, enabling the in-depth understanding and investigation of the mechanisms of urban mitigation policymaking in New York City. Thus, the present interview aims to reveal information about how the city was able to take mitigation action, even though the Federal Government withdrew from the Paris Agreement in 2017 and despite previous obstacles or catalysts to the establishment of mitigation policies on the urban level.

The information gathered through this interview will serve uniquely academic purposes and will be treated with highest confidentiality. The data will not be given to a third person or institution else than the researcher, who is also the present interviewer (Franca Fellmann). On your wish, your answers and your name will be rendered anonymous. Please do not hesitate to ask any question for clarification previous to or after the interview, either to me or to my thesis supervisor, Dr. Jaap G. Rozema (rozema.jaap@outlook.com).

If you agree with the abovementioned, please sign below.

Date and time of the interview:

Respondent's name:

Respondent's e-mail:

Respondent's signature:

Interviewer's name: Franca Fellmann

Interviewer's e-mail: franca.fellmann@vtxmail.ch

Interviewer's signature:

Name of thesis supervisor: Dr Jaap G. Rozema

Supervisor's e-mail: rozema.jaap@outlook.com

Institution: IHS, Institute for Housing and Urban Development Studies, Erasmus University Rotterdam, The Netherlands

1.1 Interview-Questions to New York City Policymakers/-experts

General Questions to urban mitigation policies and the policymaking process

1. How many climate change mitigation policies exist to date on the urban level of New York City?
2. How many climate change mitigation policies are currently being considered?
3. Do you discern institutional inertia on the Federal Government-level in terms of mitigation policy?

4. *If previous answer was yes:* Do you discern institutional inertia on the urban level in New York City in terms of mitigation policy?
5. *If previous answer was yes:* How do you tackle the noticed institutional inertia of the Federal- on the urban level?
6. Does the noticed inertia motivate to create more (*quantitatively*) as well as more stringent and effective mitigation policies on the urban level?
7. How many people or actors take part in an urban mitigation policymaking process?
8. Who are these mentioned people or actors?
9. Are there current laws that actively hinder the creation of mitigation policies concerning certain domains of industry?
10. Do you think that individual, calculated reluctance of certain actors to engage with climate mitigation leads to institutional inertia?
11. Do you feel that scientific uncertainty causes institutional inertia?
12. *If previous answer is no:* How do you perceive uncertainty in urban mitigation policymaking?
13. Do you believe that uncertainty about the threshold of climate change leads to institutional inertia? (*Clarification threshold: How much investment needed that mitigation is successful*)
14. Do you feel that decisions made in the past impede effective mitigation policy?
15. Do you perceive the activity/claims of special interest groups as rendering difficult the establishment of effective mitigation policy?
16. Do you believe that mitigation policies are currently perceived as legitimate by the public for the policies to be effective?
17. Do you feel that the cost of mitigation policies leads to institutional inertia?
18. Do you think that the need to reduce costs enhances mitigation policies?
19. Can you think of other drivers that might hamper the establishment or the implementation of mitigation policies?
20. How long is a policymaking process on average?
21. Do you sometimes feel that the process is unnecessarily slow (inert)? (*Might already be answered through Q3*)
22. Do you feel that there is a unanimous accord among the Mayor and the city council about the importance and urgency of climate change?

History

23. According to your experience, during which mandate (of which NYC mayor) were the most mitigation policies established and implemented?
24. Can you think of a reason for why the most actions happened during this time?
25. Do you believe that the times of active mitigation policymaking were driven by a certain historical or climatic event that happened and incentivized for action?
26. Do you feel that the times of less active establishment of mitigation policy were driven by the need of cost-savings?
27. Do you believe that the enhancement or the neglect of mitigation policies is tied to the influence of electoral power?

28. Do you feel that the enhancement or the neglect of mitigation policies is tied to the political orientation of the Mayor?
29. In which way did the withdrawal of the USA from the Paris Agreement in 2017 influence urban mitigation policy?

Network Governance or “Democracy” in a Policymaking Process

30. Are there some “rules of behaviour” for the actors in a policymaking process?
31. According to your experiences, is there one actor that steers the negotiations during a policymaking process?
32. *If the previous answer is yes:* Does it help to have a central steering actor?
33. *If the answer to Q12 is no:* Does every stakeholder have the same “rights” during the negotiations? (If clarification needed: e.g. veto other ideas, steer communication etc.)
34. Can every actor be held accountable for what he proposes during negotiations?
35. Do you think, an inert policymaking process has an influence on the quality of its implementation (outcome)?
36. How does the process of implementing a climate mitigation policy work?

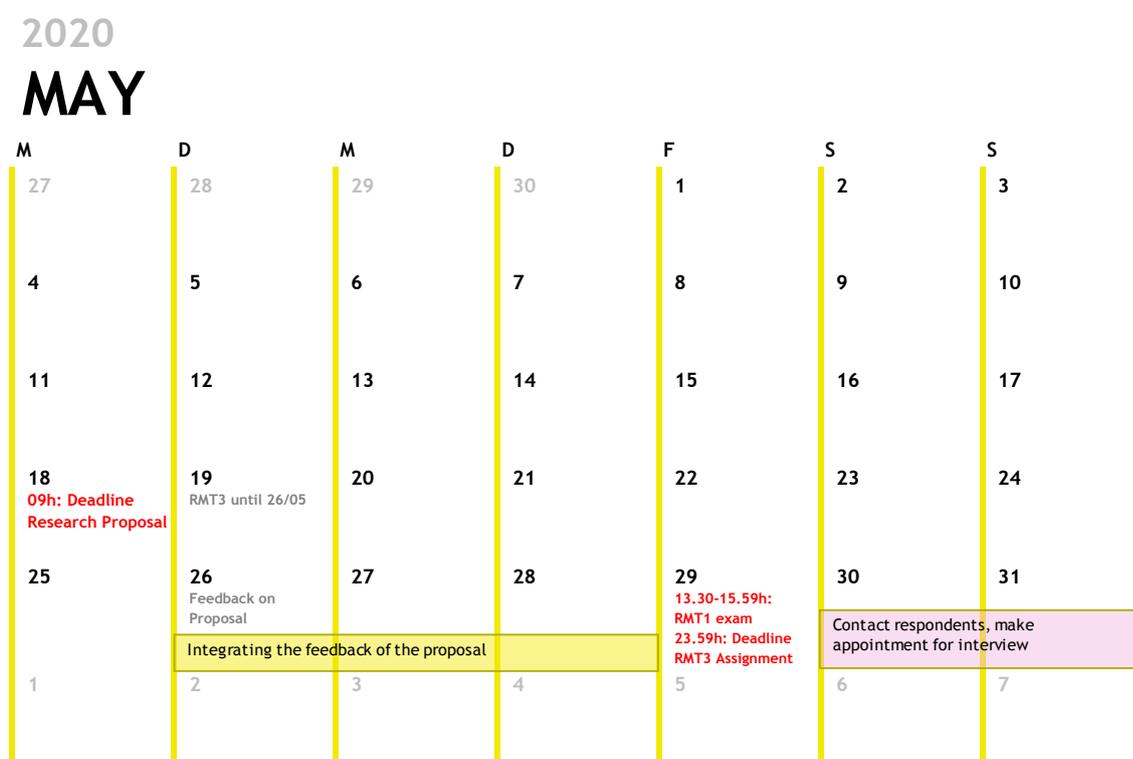
Connection to / influence of the Community and Industry

37. Does the municipal government have a certain “communication channel” with the community?
38. Do you notice claims of the New Yorker community for climate action?
39. *If the previous answer is yes:* To which extent do you take into consideration these claims for mitigation action of the local community?
40. *Depending on the previous answer – to clarify:* Thus, would you say that you actively take into consideration the wishes or claims of the New Yorker community into the urban policymaking process?
41. Do local special interest groups or grassroots movements have a representative in the negotiations for mitigation policy?
42. *If previous answer was yes:* Do these representatives have the same rights in the participation at the negotiation as other actors do? (*Potential clarification: Or do they “only” have a sort of an “observer-status”?*)
43. To what extent are the interests of the – usually strongly emitting – industry taken into account when making an urban mitigation policy?
44. Is there a punishment in case of disobedience to the policy?
45. *If the previous answer is yes:* Does it ultimately help to punish?

Annex 1.2 Work plan

Underneath this description, the workplan for the left-over three and a half months until the thesis' deadline (31st of August 2020) is shown. In May, after having handed in the research proposal on May 18, the feedback will be awaited during the qualitative research workshop of Atlas.Ti. As soon as feedback is provided (max. May 26), it will be integrated into the thesis at hand in the subsequent days. By that time, the end of May will be reached, a take-home exam handed in and another one written. Immediately after those events, the respondents of the interview will be searched for and contacted, aiming to find a date and time with them to conduct the interview. This will probably take some time, as generally and even more during the Corona pandemic, people are busy, and a foreign Master student's research is anticipated not to evoke the highest priority on their agendas.

Figure 4: Workplan, May 2020 (Author, 2020).



Meanwhile, the month of June started and thus the month of fieldwork. Thus, the interviews are prepared and if needed, the interview guide adapted. Additionally, the desk research can be debuted, with the aim to investigate the history of urban mitigation policy in New York City. If the research proposal needed improvement until June 8, this would be done between the feedback and June 8. Otherwise, the mentioned process is maintained until the interviews are conducted. By mid-June, it is foreseen to start the qualitative data analysis with the software Atlas.Ti as described in Chapter 3. The potential third deadline of the research proposal should not be of use anymore, as it is foreseen to receive a “GO” maximum by June 8. Otherwise, the deadline of June 22 would be envisaged.

Figure 5: Workplan, June 2020 (Author, 2020).

2020

JUNE

M	D	M	D	F	S	S
1	2	3	4	5	6	7
Prepare for interviews and conduct them						
Desk research; further consultation of literature						
8	9	10	11	12	13	14
09h: 2nd Submission Research Proposal	Desk research; insert new data in Atlas.Ti					
Conduct interviews; insert new data in Atlas.Ti						
15	16	17	18	19	20	21
Desk research; insert new data in Atlas.Ti						
Finish interviews; insert the data in Atlas.Ti			Start qualitative data analysis in Atlas.Ti			
22	23	24	25	26	27	28
09h: 3rd Submission Research Proposal	Data analysis; integrating potential additional data in Atlas.Ti					
29	30	1	2	3	4	5
Data analysis, Atlas.Ti						
6	7	8	9	10	11	12

Figure 6: Workplan, July 2020 (Author, 2020).

2020

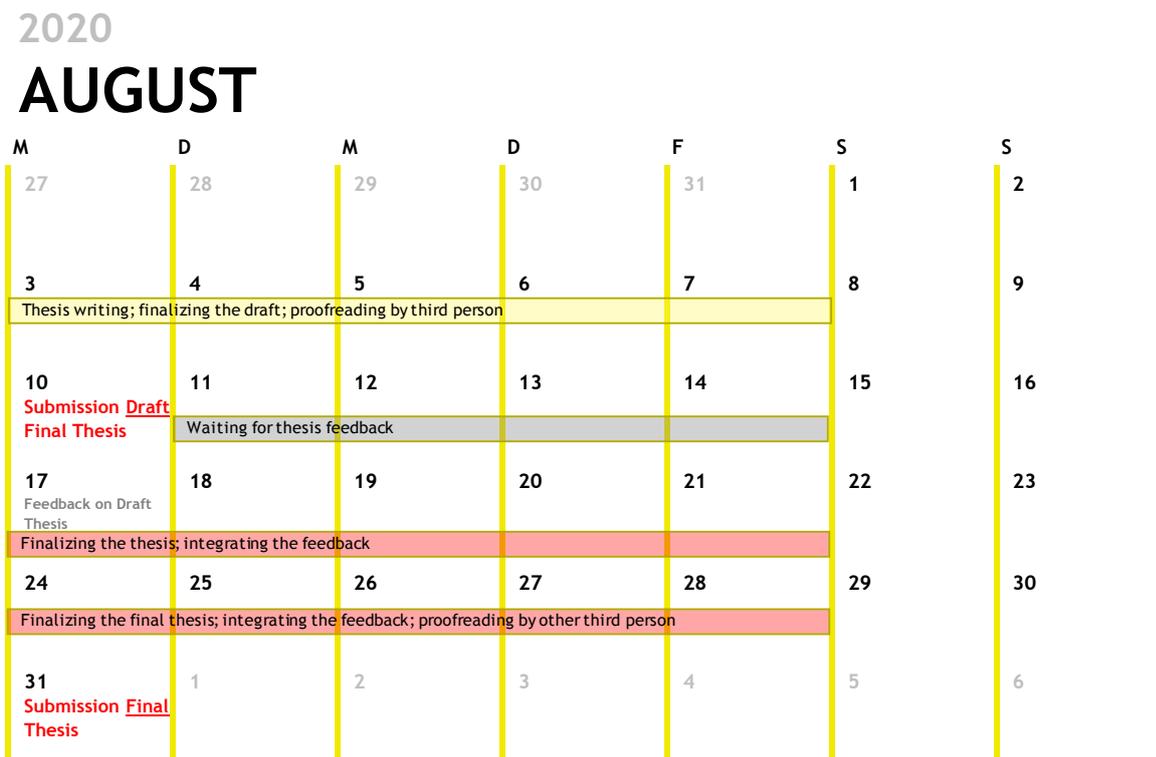
JULY

M	D	M	D	F	S	S
29	30	1	2	3	4	5
Data analysis, Atlas.Ti						
6	7	8	9	10	11	12
Research Workshop 2			Colloquium 4	Colloquium 4		
Data analysis, Atlas.Ti						
13	14	15	16	17	18	19
Data analysis, Atlas.Ti						
Thesis writing						
20	21	22	23	24	25	26
Data analysis, Atlas.Ti						
Thesis writing						
27	28	29	30	31	1	2
Thesis writing						
3	4	5	6	7	8	9

As visible above, the month of July will be dedicated to the data analysis with Atlas.Ti as well as to the writing of the thesis, starting around July 13. The author reserves her right to adjust this schedule, based on the current research progress of the time. This progress will continue during the whole month, aiming at finishing the draft thesis by the 10th of August 2020 to receive the thorough feedback.

Also, before the deadlines of August 10 and 31, the thesis will be given to a third person for proofreading. Having integrated the different feedbacks, the thesis will be handed in on Monday, 31st of August 2020.

Figure 7: Workplan, August 2020 (Author, 2020).



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3. The thesis should be edited

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